

**CITY OF AUSTIN, TEXAS
FIRE PROTECTION CRITERIA MANUAL**

Table of Contents

	Page Number
PREFACE	4
SECTION 1 – INTRODUCTION	1-2
1.1.0 GENERAL	1-2
1.2.0 USER INFORMATION	1-3
1.3.0 SITE PLAN REVIEW PROCESS	1-3
1.3.1 Administrative and Jurisdiction Information	1-3
1.3.2 Submittals	1-3
1.4.0 WATER CONSTRUCTION DOCUMENT REVIEW PROCESS	1-3
1.4.1 Administrative Information	1-3
1.4.2 Submittals	1-4
1.5.0 BUILDING PERMIT REVIEW PROCESS	1-4
1.5.1 Administration Information	1-4
1.5.2 Submittals	1-4
SECTION 2 HAZARDOUS MATERIALS PLAN REVIEW AND INSPECTION PROCESS	2-1
2.1.0 GENERAL	2-2
2.2.0 GENERAL PERMIT REQUIREMENTS	2-2
2.2.1 Permit Applications	2-2
2.2.2 Permit Procedures	2-2
2.2.3 Materials Regulated	2-2
2.2.4 Materials Not Regulated	2-3
2.2.5 Storage Permit Applications	2-3
2.2.6 Permit Transfers	2-3
2.2.7 Materials Management Plan Amendments	2-3
2.2.8 Contingency Plans	2-3
2.2.9 Closure Plan	2-4
SECTION 3 – INSPECTION PROCESS	3-1
3.1.0 GENERAL	3-2
3.2.0 INSPECTION PROCEDURES	3-2
3.2.1 Site Inspections	3-2
3.2.2 Certificate of Occupancy Inspections	3-3
3.2.3 General Fire Safety Inspections	3-4
3.2.4 License Inspections	3-8
3.2.5 Complaint Inspections	3-8
3.2.6 Night Inspections	3-8
3.2.7 Re-Inspections	3-9
3.2.8 Substandard Housing and Vacant Building Inspections	3-9
3.2.9 Fire Protection System Inspections	3-10
3.2.10 Fire Protection Equipment Inspection Schedule	3-11
3.2.11 Criteria for System Tests	3-12
SECTION 4 – FIRE PROTECTION RULES	4-1
4.1.0 GENERAL	4-2
4.2.0 ADMINISTRATIVE PROVISIONS	4-2
4.3.0 DEFINITIONS AND ABBREVIATIONS	4-10
4.4.0 GENERAL PROVISIONS FOR FIRE SAFETY	4-10
4.5.0 SPECIAL OCCUPANCY USES AND PROCESSES	4-24
4.6.0 UNIFORM FIRE CODE APPENDICES	4-29

4.7.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 13 AND LOCAL AMENDMENTS	4-29
4.8.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 14 AND LOCAL AMENDMENTS	4-30
4.9.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 20	4-30
APPENDIX	A-1
APPENDIX A: FIRE PROTECTION RULES REQUEST	A-1
APPENDIX B: INSPECTION FORMS	A-2
APPENDIX C: HAZARDOUS MATERIALS STORAGE PERMIT APPLICATION	A-40
APPENDIX D: FIRE-FLOW REQUIREMENTS FOR BUILDINGS	A-46
APPENDIX E: FIRE PROTECTION PLANS SUBMITTAL REQUIREMENTS	A-47
1.0.0 Fire Code Site Plan General Submittal Requirements	A-47
1.1.0 Plans and drawings	A-47
2.0.0 Fire Code Submittal Requirements for Water Plans	A-48
2.1.0 Plans and drawings	A-48
2.2.0 Manufacturer's literature	A-48
2.3.0 Hydraulic calculations	A-48
2.4.0 Water supply information	A-49
3.0.0 Fire Code Submittal Requirements for Building Permits.	A-50
3.1.0 General requirements	A-50
3.2.0 Specific reviews	A-51
3.2.1 Site and water plan confirmation	A-51
3.2.2 Fire lane review	A-51
3.2.3 Standpipe systems	A-52
3.2.4 Fire pumps	A-53
3.2.5 Automatic sprinkler systems	A-55
3.2.6 Smoke control and smoke removal systems	A-57
3.2.7 Smoke and heat vents	A-57
3.2.8 Emergency and standby power systems	A-58
3.2.9 Fire alarm, detection and emergency communications systems	A-58
3.2.10 Cooking hood extinguishing systems	A-60
3.2.11 Portable fire extinguishers	A-61
3.2.12 Atrium review	A-61
3.2.13 High-rise review	A-61
3.2.14 Special ventilation systems	A-62
3.2.15 Stairwell/vestibule pressurization systems	A-62
3.2.16 Key boxes	A-63
3.2.17 Explosion venting	A-63
3.2.18 Basement pipe inlets	A-65
3.2.19 Special hazards	A-65
3.2.20 Clean agent fire suppression systems	A-68
3.2.21 Carbon dioxide systems	A-70
3.2.22 Dry/wet chemical systems	A-71
3.2.23 Foam system	A-72
3.2.24 Controlled access/egress systems	A-74
3.2.25 Other systems	A-74
APPENDIX F: FIRE CODE AMENDMENTS	A-75
APPENDIX G: FIGURES AND DIAGRAMS	A-76

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PREFACE

This document is intended to be a dynamic manual, developed and maintained in accordance with all City policies. This manual will be amended as needed on a quarterly basis to accommodate new technologies and methodologies. Additionally, revisions will be made to further clarify the application of code provisions pertinent to special circumstances encountered. The revisions will occur on or about the first days of January, April, July and October.

Public comments and recommendations are crucial in maintaining this manual in an updated form. If a Fire Code provision requiring clarification is encountered, the Fire Department encourages recommendations be submitted. Such recommendations should be placed on the form in Appendix A of this manual, titled "City of Austin Fire Protection Rules Request" and submitted to the Austin Fire Department for consideration.

The Austin Fire Department has developed this Fire Protection Manual to assist in the administration, implementation and use of the Fire Code. This manual provides clarification and specific guidance for the prevention and control of fires and fire hazards as are necessary to carry out the intent of the Fire Code

Contained within are certain rules and policies to be used in interpretation of the Fire Code. It does not address all areas of code enforcement. Check the Fire Code to determine all applicable code requirements.

Contained herein are administrative procedures for the fire protection plan review and inspection processes and references to the applicable ordinances and recognized standards. Also contained in this manual are the rules pertaining to the application of the technical aspects of the Fire Code and its associated standards.

"Fire Code" as used in this manual shall be the International Fire Code, ~~2009-2012~~ Edition, published by the International Code Council as adopted and amended by the City of Austin in Ordinance ~~20100624-142-20130606-092~~ and other related ordinances. The Austin Fire Code is codified as Sections 25-12-171 and 25-12-172 of the Land Development Code.

SECTION 1

INTRODUCTION

TABLE OF CONTENTS

	Page Number
1.1.0 GENERAL	2
1.2.0 USER INFORMATION	2
1.3.0 SITE PLAN REVIEW PROCESS	3
1.3.1 Administrative and Jurisdiction Information	3
1.3.2 Submittals	3
1.4.0 WATER CONSTRUCTION DOCUMENT REVIEW PROCESS	3
1.4.1 Administrative Information	3
1.4.2 Submittals	4
A. Application for Review	4
B. Format of Submittals	4
1.5.0 BUILDING PERMIT REVIEW PROCESS	4
1.5.1 Administration Information	4
1.5.2 Submittals	4
A. Application for Review	4
B. Format of Submittals	4

SECTION 1 - INTRODUCTION

1.1.0 GENERAL

This Section provides an outline of the Fire Department's review of the development process.

1.2.0 USER INFORMATION

The Fire Department's involvement in the City's development processes occurs throughout all growth phases of a project. When considering the five (5) major steps in the City's development process, the Fire Department participates as a responsible department in three (3) of those steps (i.e., Site Plan, Building Permit and Construction). The Fire Department participates in the other two (2) major steps of the development process (i.e., Zoning and Subdivision) in a secondary manner. When special circumstances dictate a need for such expertise, the Fire Department will, upon the request of another City department or the Land Use Commission, participate actively in the zoning and subdivision steps for a given project.

Fire Department Participation During the Five (5) Major Steps in Development

- | | |
|--------------------------------------|--|
| Zoning (step 1) | - No primary Fire Department involvement. |
| Subdivision (step 2) | - No primary Fire Department involvement except for replatting that involves flag lots, or as otherwise requested by the Land Use Commission. |
| Site Plan (step 3) | - Fire Department Review for access and special hazards related to use and sufficient water availability at site. |
| Building Permit (step 4) | - Complete Fire Code review for structural, occupancy, use, equipment and processes.
- Complete review of all fire protection systems.
- Complete Hazardous Materials review.
- Complete water supply and fire flow review. |
| Construction (step 5)
hydrostatic | - Construction inspections (e.g., site inspections, tests prior to cover up, etc).
- Certificate of occupancy inspections.
- Hazardous materials inspections during construction and for certificate of occupancy. |

Subsequent to the issuance of the certificate of occupancy, the Fire Department is the lead agency in the maintenance inspections for projects. Additionally, the Fire Department issues several permits for which inspections are required. These permits may be issued and/or renewed subsequent to the certificate of occupancy.

The Fire Code is a technically based document and does not elaborate upon the details of specific review and inspections processes which may be used for code implementation. Sections 2 and 3 offer administrative information pertaining to the purpose, code and standard references, permits and procedures for the various processes in which the Fire Department participates.

Section 4 of this manual provides rules used to administer and implement the particular provisions of the Fire Code, National Fire Protection Association Standards and the local amendments.

To determine the necessary submittal requirements needed to demonstrate compliance with the Fire Code, see the Building Criteria Manual and Appendix E of this manual.

1.3.0 SITE PLAN REVIEW PROCESS

1.3.1 Administrative and Jurisdiction Information

- A. The site plan review process for the Fire Code shall encompass all changes in use of property, development on land or shorelines and development or construction requiring a building permit affecting or implementing fire protection, prevention or suppression. Site Plan exemptions shall be as outlined in Chapter 25-5 of the Code of the City of Austin, but such exemptions shall not waive any requirements of the Fire Code.
- B. The Fire Department reviews for compliance with the Fire Code and certain applicable sections of the Building Code, and for impact of the design on potential emergency operations. The type, number and location of fire fighting appliances shall be reviewed to assure compatibility with respect to on site construction and the hazards of fire and explosion. In addition, where practical difficulties in meeting site requirements are encountered, alternate materials and methods of Fire Code compliance will be reviewed at this time.

1.3.2 Submittals

Submittals are initiated through the Planning and Development Review Department for site plan and development permits. Such submittals will be made in accordance with Chapter 25-5 of the Land Development Code (LDC).

1.4.0 WATER CONSTRUCTION DOCUMENT REVIEW PROCESS

1.4.1 Administrative Information

- A. The water construction documents review shall encompass all water construction documents pertaining to the construction or installation of site related fire protection water supply facilities or appliances within the jurisdiction of the City of Austin.
- B. The purpose of this Section is to outline the review with respect to compliance with the Fire Code (Chapter 25-12, Article 7), Chapter 5, Section ~~508507~~, "Fire Protection Water Supplies."

1.4.2 Submittals

- A. *Application for Review.* All water construction documents submitted to the City of Austin Fire Department must be accompanied by a fully completed application for review. Such water construction document reviews may be made concurrently to subdivisions and building permit review and applications.
- B. *Format of Submittals.* All water construction document submittals shall be folded so that no single section is greater than nine (9) inches in width and twelve (12) inches in length. This requirement shall apply to blueprints, manufacturer's data sheets, hydraulic calculations and other requested information. This requirement does not apply to mylars or similar reproducible documents.

1.5.0 BUILDING PERMIT REVIEW PROCESS

1.5.1 Administration Information

- A. The Fire Code review during the building permit review process shall encompass all structures subject to the Fire Code or portions thereof that are constructed, remodeled, added to, relocated or that are subject to an occupancy change except as exempted by Chapter 25-12-11 of the LDC. Fire Code sections 311, 316, 503, 504, 505, 507, 510, 603, 703, 1029, 1030, and Appendix B apply to all structures including those governed by Chapter 25-12-11 of the LDC.
- B. The purpose of this section is to outline the review for adherence to the minimum standards that safeguard life and property from the hazards of fire and explosion.

1.5.2 Submittals

- A. *Application for Review.* All building permit construction documents shall be submitted to the City of Austin Planning and Development Review Department. An application is completed, attached to the plans and is subsequently distributed to the Austin Fire Department. Revisions and corrections made to the original set of construction documents must be submitted to the City of Austin Planning and Development Review Department for review and distribution.
- B. *Format of Submittals.* All building construction documents must be submitted in the format as outlined in the Building Criteria Manual and Appendix E of this Manual.

**SECTION 2
HAZARDOUS MATERIALS PERMITS**

TABLE OF CONTENTS

	Page Number
2.1.0 GENERAL	7
2.2.0 GENERAL PERMIT REQUIREMENTS	2
2.2.1 Permit Applications	2
2.2.2 Permit Procedures	2
2.2.3 Materials Regulated	4
2.2.4 Materials Not Regulated	2
2.2.5 Storage Permit Applications	3
2.2.6 Permit Transfers	3
a. Change of Ownership – Same Location	3
b. Change of Location – Same Owner	3
2.2.7 Materials Management Plan	3
2.2.8 Contingency Plans	3
2.2.9 Closure Plan	4

SECTION 2 HAZARDOUS MATERIALS PERMITS

2.1.0 GENERAL

(See Section 2701.1 of the International Fire Code as amended.)

- A. The Hazardous Material Storage and Registration Ordinance as incorporated into the 2003 edition of the International Fire Code as Chapter ~~2750~~, “Hazardous Materials-General Provisions,” addresses facilities which handle and store those materials determined to be hazardous in accordance with the parameters outlined in the Fire Code. The Fire Code specifies that a hazardous materials permit shall be obtained if a facility stores over a predetermined limit of either toxic, flammable or reactive materials in either of the three (3) physical states of matter: solid, liquid or gas.
- B. Chapter ~~2750~~ titled “Hazardous Materials-General Provisions,” and Chapters ~~2851~~ through ~~4467~~, which address specific hazardous materials, were developed to address the hazards of hazardous material storage and the potential for accidental release of and emergency responder exposure to same.
- C. Where no specifications or guidelines are presented in this manual or the Fire Code, the standards contained in the National Fire Codes, ~~2010-2013~~ Edition as published by the National Fire Protection Association (NFPA), will be followed.

2.2.0 GENERAL PERMIT REQUIREMENTS

2.2.1 Permit Applications

(See Section ~~27015001~~.7 of the International Fire Code Amendments as contained in Appendix F of this Manual.)

2.2.2 Permit Procedures

All persons shall obtain and maintain a hazardous material storage permit or short form hazardous materials permit from the Fire Department prior to and while handling or storing any material(s) regulated by this Article. Permit application forms are available from the Hazardous Materials Section of the Fire Department.

2.2.3 Materials Regulated

(See Section 105.6 of the International Fire Code Amendments as contained in Appendix F of this Manual.)

2.2.4 Materials Not Regulated

(See Section 105.6 of the International Fire Code Amendments as contained in Appendix F of this Manual.)

2.2.5 Storage Permit Applications

(See Appendix C of this Manual)

2.2.6 Permit Transfers

(See Section ~~2701~~5001.7 of the International Fire Code Amendments as contained in Appendix F of this Manual.)

- A. *Change of Ownership—Same Location.* The transfer of a hazardous materials storage permit will require the completion of the transfer forms signed by the buyer and seller of the permitted facility. Permit transfers are for the transfer of ownership of the permitted facility based on the nature of the pre-existing operations and materials stored. Significant changes in operations and/or storage will require a new permit.
- B. *Change of Location—Same Owner.*
 - 1. The transfer of a pre-existing permit to a new location requires notification of the Fire Department as to the new location and the submittal of revised facility maps and inventories as required.
 - 2. Transfer forms are available at the Fire Department, Engineering Services Section Office, 505 Barton Springs RD, Suite 200.

2.2.7 Materials Management Plan Amendments

(Section Deleted)

2.2.8 Contingency Plans

(See Sections ~~2701~~5001.5.1 and ~~2703~~5003.9.1 of the International Fire Code)

- A. The permit applicant shall develop a contingency plan for the facility which describes the planned response procedures to be followed by facility personnel in the event of fires, explosions or unauthorized release of hazardous materials. One (1) or more copies will be available at all times at the facility and one (1) copy will be submitted with the permit application. The contingency plan shall contain, at a minimum, the following elements:
 - 1. The names and emergency telephone numbers of the primary and secondary emergency coordinators designated for the facility.
 - 2. A list of emergency telephone numbers to be used in the event of an emergency to include outside response agencies.
 - 3. An evacuation plan for the facility describing the signals to be used by facility personnel.
 - 4. A hazardous material spill containment/cleanup plan.
 - 5. The name, address and telephone number of at least one (1) contractor capable of handling the spilled material.
- B. The contingency plan should be reviewed and revised whenever:
 - 1. The facility or operations are significantly changed resulting in increased potential for fire, explosions or material releases,

2. Designated personnel or phone numbers change,
3. Response plans are changed,
4. The designated contractor is changed, or
5. The plan fails in an emergency.

2.2.9 Closure Plan

(Fire Code Section ~~2701~~5001.6)

- A. The closure plan shall describe the procedures that will be taken to terminate the bulk storage of hazardous materials at the facility in the event that:
 1. The site is found to be uncontaminated and no clean up will be required, or
 2. The site has some contamination but can be shown to not require any cleanup, or
 3. The site has significant contamination and remedial action will be required to decontaminate the site.
- B. An updated closure plan is to be submitted 30 days prior to the closure if any provisions of the original closure plan have been changed.

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**SECTION 3
INSPECTION PROCESS**

TABLE OF CONTENTS

	Page Number
3.1.0 GENERAL	2
3.2.0 INSPECTION PROCEDURES	2
3.2.1 Site Inspections	2
3.2.2 Certificate of Occupancy Inspections	3
A. Shell Buildings Certificate of Occupancy Inspections	3
B. Tenant Finish-Out Certificate of Occupancy Inspections	4
3.2.3 General Fire Safety Inspections	4
A. General Inspections	4
B. School Inspections	6
C. Storage Inspections	6
D. Manufacturing Inspections	6
E. High-rise Inspections	7
3.2.4 License Inspections	8
A. Wine and Beer	8
B. Day Care	8
C. Nursing Homes	8
D. Hospitals	8
3.2.5 Complaint Inspections	8
3.2.6 Night Inspections	8
3.2.7 Reinspections	9
3.2.8 Substandard Housing and Vacant Building Inspections	9
3.2.9 Fire Protection System Inspections	10
3.2.10 Fire Protection Equipment Inspection Schedule	11
3.2.11 Criteria for System Tests	12
A. Fire Alarm Systems	12
B. Stairway Door Locks	13
C. Fire Pumps	13
D. For Diesel Driven Fire Pumps	14
E. Standpipes	15
F. Automatic Sprinkler Systems	16
G. Shaft Pressurization	18
H. Emergency Generator	19
I. Elevators	19
J. Smoke Management Equipment	20
K. Sequence Tests	21
L. Foam Systems	22
M. Fire Escapes	23
N. Halon/FM 200/Inergen/Carbon Dioxide Systems	23
O. Rangehood Systems	24
P. Dry Chemical	24
Q. Controlled Access/Egress Systems	25

SECTION 3 - INSPECTION PROCESS

3.1.0 GENERAL

- A. Fire inspections will be performed in all new and existing occupancies which include places of public assembly, educational, institutional, residential (not including private dwellings), mercantile, business, industrial, manufacturing and storage.
- B. Inspection methodology employs application of fire protection and prevention principles, education and instruction of the public regarding fire safety practices and code requirements and enforcement of codes.
- C. The purpose for these inspections is to provide a reasonable degree of safety to life and property from fire through the detection and elimination of those conditions that create or increase the hazard of destructive fire. In addition, these inspections will familiarize the public in fire safety practices and requirements thereby increasing their awareness of the fire problem so they may eliminate hazardous conditions before they occur.

3.2.0 INSPECTION PROCEDURES

In addition to routine general maintenance inspections, inspections shall be performed when requested by the contractor, owner or occupant. The requester is responsible for providing all specialized equipment required to complete the inspection. Additionally, the Fire Prevention Division of the Fire Department will conduct inspections in response to citizen's complaints.

3.2.1 Site Inspections

Site inspections will be performed during the construction or development of the facilities, structures or sites. The following items shall be installed and rendered operational prior to combustible construction materials being brought onto the site:

- A. Address numbers, building numbers and letters shall be prominently displayed as specified in Section 505.1 of the Fire Code and the rule in Section 4 of this manual associated with Fire Code Section 505.
- B. All Fire Department roads or alternate access shall be complete and unobstructed in accordance with Fire Code Section 503 and the rules in Section 4 of this manual related to Fire Department access roads.
- C. Required fire hydrants (interim or permanent) shall be properly installed and fully operational as per City of Austin approved water construction documents.
 - 1. A fire hydrant flow test may be conducted as deemed necessary by the City of Austin Fire Department to verify the adequacy of the water supply as required by Section 507 and Appendix B of the Fire Code.

2. All installed fire protection equipment shall be maintained as per Sections 901.4, 901.6, 901.7, 901.9, 903.5, 904.1, 904.5, 904.6, 904.7, 904.8, 904.9, 904.10, 904.11.6, 906.2, 907.1, 907.98, 909, 910.5, 912.6, and 913.5 of the Fire Code.
- D. Approved water construction documents shall be maintained on site at the construction office for inspector's review as necessary.
1. Private fire service water mains shall be installed in accordance with NFPA 24 and shall be hydrostatically tested for 2 hours. This hydrostatic test shall be witnessed by an inspector for the City of Austin Planning and Development Review Department, Plumbing Inspections Section.

3.2.2 Certificate of Occupancy Inspections

Certificate of occupancy inspections will be conducted on all structures prior to any occupant use or storage in the structure. The two (2) types of certificate of occupancy inspections conducted are shell building and tenant finish-out inspections. Only one (1) certificate of occupancy inspection may be necessary when only one (1) tenant is to occupy the building.

- A. *Shell Building Certificate of Occupancy Inspections.* Shell building certificate of occupancy inspections are conducted on the base building(s) to ensure that all previously approved construction documents have been adhered to. The following items will be inspected and/or tested during the shell building certificate of occupancy inspection:
1. Approved building construction documents on site.
 2. Stairway(s) complete, unobstructed and signage provided.
 3. Exit lights installed and operational.
 4. Emergency lights installed and operational.
 5. Doors/assemblies installed and operational.
 6. Means of egress complete to the satisfaction of the Planning and Development Review Department and unobstructed.
 7. Any other requirements particular to occupancy (i.e., hazardous materials, storage, manufacturing, etc.).
 8. Fire Extinguishers.
 - a. Verify installation of proper size, type and classification of fire extinguishers.
 - b. Verify proper location, accessibility and visibility of fire extinguishers.

- c. Verify extinguisher servicing is current, including servicing company's name, address and license number on extinguisher tag.
9. Test the fire protection systems and components in accordance with fire protection system inspection contained in Sections 3.2.10 and 3.2.11.
- B. *Tenant Finish-Out Certificate of Occupancy Inspections.* Tenant finish-out certificate of occupancy inspections are conducted on an individual lease area to ensure that all previously approved construction documents have been adhered to. The following items will be inspected and/or tested during the tenant finish-out certificate of occupancy inspection:
1. Verify that the shell-building certificate of occupancy inspection has been conducted and approved.
 2. Verify approved construction plans for tenant space on site.
 3. Verify construction as per approved plans; including all fire protection systems installed, means of egress maintained, etc.
 4. Occupancy load card, if applicable, displayed near main entrance.
 5. Verify all other uses or processes peculiar to occupancy (i.e., hazardous materials, storage, manufacturing, etc.) comply with appropriate code and rules.
 6. Test the fire protection systems and components in accordance with fire protection system inspection contained in Sections 3.2.10 and 3.2.11.

3.2.3 General Fire Safety Inspections

General fire safety inspections are performed on all existing structures. These inspections apply to all structures with the exception of single and two (2) family properties as well as the interior of residential portions of multifamily structures.

Such inspections are performed to examine compliance with the Fire Code. Violations of other City codes may also be noted during inspection and referred to appropriate staff. Typical inspection procedures include, but are not limited to, the following:

A. *General Inspections.*

1. Verify the proper size, type and number of portable fire extinguishers on hand. These extinguishers shall be properly mounted and properly serviced, within the immediately previous 12 months, and shall be ready for immediate use.
2. Verify accumulations of combustible waste are not present.
3. Verify cooking appliances are devoid of grease.

4. Verify approved means of egress are not blocked. Egress doors shall not be locked and means of egress are not used for storage.
5. Verify that enclosed stairways have required identification and access signs.
6. Verify exit signs are illuminated and in working order.
7. Verify "no smoking" signs are posted at appropriate locations and smoking is allowed only in designated areas.
8. Verify flammable/combustible liquids are kept in approved safety containers and stored in an approved manner.
9. Verify combustible waste, soiled rags, etc., are stored in approved metal containers.
10. Verify solvents used in cleaning procedures are of the correct type as regulated by the Fire Code.
11. Verify all combustible decorations, including drapes and curtains, are adequately treated for fire resistance.
12. Verify all compressed gas cylinders are stored/used properly.
13. Verify approved forms of address are posted and maintained on all buildings and visible from the street.
14. Verify occupant load cards are posted near the main entrance in places of public assembly and that authorized occupant loads are not exceeded.
15. Verify Fire Department access roadways, fire hydrants and fire fighting appliances are not obstructed.
16. Verify heating appliances are maintained in proper working order.
17. Verify fire protection systems have been maintained in working order and serviced as required for the existing use and hazard type.
18. Verify approved fire evacuation plans are posted at conspicuous locations in high rise buildings and buildings of public assembly when required by the Fire Chief.
19. Verify all gas meters are properly protected from vehicular damage.
20. Test the fire protection systems and components in accordance with fire protection system inspection contained in Section 3.2.10 and 3.2.11.

B. *School Inspections.* The general procedures used during the inspection of a facility are the same as for the General Fire Safety Inspection outlined in Section 3.2.3 above as well as the items listed below:

1. Verify fire alarm systems and associated devices have been tested quarterly by a qualified person. In addition, verify the staff has conducted monthly service tests on this equipment and notified a qualified person when problems were detected. All tests, maintenance and repairs are to be clearly documented and certified using documents contained in this manual and made available on site for viewing by the fire inspector.
2. Verify the school's emergency evacuation and relocation plans are posted in each room for occupant's use. The schools must practice a fire drill in accordance with state law.
3. Verify emergency numbers for fire, police and ambulance are posted near the telephone in office area.
4. Verify proper storage of flammable fuels and solvents and fuel-powered equipment.

C. *Storage Inspections.* The general procedures used during the inspection of a storage facility are the same as for the General Fire Safety Inspection outlined in Section 3.2.3 above as well as the items listed below:

1. Verify the classification and configuration of storage is compatible with the fire protection provided.
2. Verify incoming goods are stored promptly and safely so as not to pose a fire or existing hazard.
3. Verify boxes and idle pallets are stored properly.
4. Verify United States licensed warehouses have evacuation plans posted.
5. Verify fire extinguishers are properly identified.
6. Verify fire doors operate freely and/are not blocked open.
7. Verify the proper type and classifications of forklifts are being used and that they are properly maintained with a 2.5 lb. ABC fire extinguisher and properly refueled.

D. *Manufacturing Inspections.* The general procedures used during the inspection of a manufacturing facility are the same as for the General Fire Safety Inspection outlined in Section 3.2.3 above as well as the items listed below:

1. Verify all equipment is free of waste and residual production material and debris.

2. Verify all the handling and removal of all waste and residual production material and debris is done properly.
 3. Verify all required ventilation components and/or systems are operational and properly maintained.
 4. Verify all electrical equipment and appliances are maintained and carry the listings and ratings required by the Electrical Code.
 5. Verify proper housekeeping is practiced so as to avoid fire hazards.
 6. Verify the proper use, handling and storage of flammable and combustible gases, liquids and solids used in the manufacturing and maintenance processes.
 7. Verify the required permits are posted.
- E. *High-rise Inspections.* The general procedures used during the inspection of a high-rise building are the same as for the General Fire Safety Inspection outlined in Section 3.2.3 above as well as the items listed below:
1. Verify fire alarm and detection systems are maintained in working order as approved.
 2. Verify communication systems are maintained in working order as approved.
 3. Verify control equipment within the central control station is maintained as approved.
 4. Verify elevator recall and fire fighter's control systems are maintained as approved.
 5. Verify standby power, light and emergency systems are maintained as approved.
 6. Verify for exits and exit ways:
 - a. Where applicable, stairwell door locking systems are operating and maintained as approved.
 - b. Where applicable, stairwell telephones/two way communication systems are operating and maintained as approved.
 - c. Verify smokeproof enclosures and/or shaft pressurization systems are operating and maintained as approved.
 7. Handicap Provisions. In applicable R-1 occupancies, provisions are made for displaying the room numbers occupied by handicapped persons.

3.2.4 License Inspections

Selected occupancies require the issuance of a license from various city, county and state agencies. For these licenses to be issued, fire safety inspections must be performed. The typical license requirements are listed below.

- A. *Wine and Beer.* A wine and beer inspection pursuant to the ~~1992 Code of the City of~~ Austin City Code Chapter 4-9 is for the purpose of obtaining a permit to sell alcoholic beverages. The general procedures used during the inspection of a premises for a wine and beer license are the same as for the General Fire Safety Inspections outlined in Section 3.2.3 above.
- B. *Day Care.* A day care facility inspection is for the purpose of obtaining a permit to tend for children or adults. The guidelines used during the inspection of a premises for a day care facility license are the same as for the General Fire Safety Inspections outlined in Section 3.2.3 above, in addition to the State requirements set forth in "Minimum Standards for Day Care Centers" published by the State of Texas, Department of Human Services.
- C. *Nursing Homes.* A nursing home facility inspection is for the purpose of obtaining a State issued permit to care for and tend to adults or children. The guidelines used during the inspection of a premises for a nursing home facility are the same as for the General Fire Safety Inspections outlined in Section 3.2.3 above as well as the ~~State~~-requirements of the State of Texas (see Nursing Home Licensing Standards).
- D. *Hospitals.* A hospital inspection is for the purpose of a state issued permit to operate an emergency medical care facility. The guidelines used during the inspection of a premises for a hospital are the same as for the General Fire Safety Inspections outlined in Section 3.2.3 above as well as the ~~State~~-requirements of the State of Texas (see Hospital Licensing Standards).

3.2.5 Complaint Inspections

When a complaint has been received from a citizen, an inspector will contact the owner of the property/equipment and inspect the property/equipment in question. If the condition is found to be a violation of the Fire Code, the inspector will issue an order to bring the property into compliance with the applicable code. A date for reinspection to confirm compliance will be given at the time of compliance order.

3.2.6 Night Inspections

- A. This type of inspection is performed where the occupant load is near capacity during the evening hours, (i.e., nightclubs, drinking and dining establishments), other places of assembly (theaters, auditoriums, etc.) or buildings or facilities which can only be checked at night (i.e., offices with irregular hours, etc.).

- B. The general procedures used during the inspection of premises for night inspections may include those procedures outlined in Section 3.2.3 "General Fire Safety Inspections", above, but primarily involve the following:
 - 1. Verify the exiting system is unlocked, unobstructed exit signs illuminated and aisles leading to exits have required unobstructed width.
 - 2. Verify no more people are inside the building than what is indicated on occupant load card(s).
 - 3. Verify the fire protection systems are operational and maintained according to the Fire Code.

3.2.7 Reinspections

- A. The reinspection is the follow up to all other inspections. This inspection is to determine if the Fire Code violations noted on the previous inspection report have been corrected. If these violations are corrected, the inspector notes that all violations indicated have been corrected and delivers a copy to owner.
- B. If the inspector determines that substantial progress is being made to correct these violations and that the immediate hazard to life and property has been abated, he will report such progress to his supervisor who may give the owner or representative of the business additional time to comply with the Fire Code.
- C. If an insufficient attempt has been made to correct the noted hazards by the given reinspection date, appropriate action will be taken.

3.2.8 Substandard Housing and Vacant Building Inspections

The issuance of a minimum standards permit requires Fire Department participation in all cases referred by the Planning and Development Review Department. The inspection includes a check of any fire hazards of said property or building. Following is a general list of inspection items:

- A. Verify the occupant, upon vacating or abandoning any premises, has removed any and all noxious and hazardous material or waste matter which has been deposited, allowed to come to rest or permitted to accumulate thereon and such premises has been left in a clean and neat condition.
- B. Verify every person owning or in charge or control of the vacant building has removed all accumulations of flammable or combustible waste or rubbish from the building and has securely locked, barricaded or otherwise secured doors, windows and other openings.
- C. When the structure is occupied, general fire safety inspection items shall also apply.

3.2.9 Fire Protection System Inspections

- A. Fire protection systems installed in the jurisdiction of the City of Austin shall be inspected prior to the issuance of the certificate of occupancy for the building, structure or space and on a periodic basis as outlined in Section 3.2.10. Such inspections are performed at the owner's expense by qualified personnel as specified in the following inspection schedule. The owner must test all fire protection systems under his ownership.

- B. It will be the responsibility of the owner to schedule all tests with the qualified personnel and to notify the Austin Fire Department Fire Marshal's office at least one (1) week in advance of the annual sequence tests, and at least two (2) day's notice for system inspection tests for the certificate of occupancy. The Austin Fire Department may decline to attend fire protection system tests.

- C. Upon completion of the inspection(s), the appropriate Austin Fire Department fire protection system forms will be completed in duplicate. One (1) copy of the inspection form shall be available at the occupancy for Fire Department Inspection. When requested, the owner shall provide the Austin Fire Department with duplicates of the inspection forms.

3.2.10 Fire Protection Equipment Inspection Schedule

Type of System	Test Frequency	Qualified Personnel
Fire Alarm and Detection System	Annually, Semiannually, quarterly, and monthly in accordance with NFPA 72	State Licensed Fire Alarm Company, except monthly and quarterly tests by building engineering staff when approved by AFD
Magnetic Locks and Stairway Door Locks	Annually (quarterly function test by building engineering staff for high rise buildings)	*Building Engineering Staff
Fire Pump	Annually (quarterly function test by building engineering staff for high rise buildings)	State Licensed Automatic Sprinkler Company
Standpipes	5 year, Annually, quarterly and monthly in accordance with NFPA 25	State Licensed Automatic Sprinkler Company, or Licensed Master Plumber (for Independent Standpipe Systems only). Quarterly and monthly tests may be by building staff when approved by AFD.
Automatic Sprinklers	5 year, Annually, quarterly and monthly in accordance with NFPA 25.	State Licensed Sprinkler Company. Quarterly and monthly tests may be by building staff when approved by AFD.
Shaft Pressure	Annually (quarterly function test by building engineering staff for high rise buildings)	Special Inspection Agency or Service
Emergency Generators	Annually (quarterly function test by building engineering staff for high rise buildings)	Licensed Master Electrician or authorized Generator Company Service Representative
Elevators	Annually (quarterly function test by building engineering staff for high rise buildings)	Elevator Company Service Representative (or as approved by Building Official)
Tempered Windows/Smoke Removal	Annually (quarterly function test by building engineering staff for high rise buildings and atrium systems)	Building Engineering Staff (Tempered Windows Only), or Special Inspection Agency or Service
Sequence Test	Annually	Austin Fire Dept.
Foam Systems	Annually/5 year	Licensed Fire Protection System Co.
Fire Escape	5 year (annual function test by building engineer)	Licensed Professional Engineer
Halon, CO2 or Halon Alternative Agents	Annually	Licensed Fire Protection System Company
Range Hoods	Semi-annually	Licensed Fire Protection System Company
Dry Chemical	Semi-annually	Licensed Fire Protection Systems Company
Evacuation Plans	Annually	Austin Fire Dept.
Fire Hydrants	Annually	W& WW Approved Organization or Contractor

* Building engineering staff is acceptable provided a responsible person is designated who has specialized knowledge of the system being inspected and any related building systems which may be present.

3.2.11 Criteria For System Tests

The procedures listed here and on the Certification Testing Report forms are not necessarily all-inclusive and may vary with the particular system. (See Appendix B)

A. *Fire Alarm and Detection Systems.* Fire alarm systems shall be tested and certified annually. All certifications shall be conducted by a fire alarm company licensed by the State of Texas. Quarterly function tests may be performed by the building engineering staff for high-rise buildings. The following system components and operations shall be tested as outlined:

1. Verify fire control alarm panel is operational.
2. Verify visual indicators in alarm panel are operational.
3. Verify proper zoning of system and zones are properly identified on control panel.
4. Verify all smoke detectors are operational.
5. Verify all heat detectors are operational.
6. Verify flame detectors are operational.
7. Verify every manual pull station is operational.
8. Verify water flow tamper switches are operational.
9. Verify all audio and/or visual devices are operational.
10. Verify voice/alarm speakers are operational.
11. Verify fire department communication system is operational.
12. Verify sprinkler system supervisory devices are operational.
13. Verify supervisory system circuits are operational and remove random devices to test trouble systems.
14. Verify primary power supply is operational.
15. Verify secondary power supply is operational.
16. Verify amplifier is operational.
17. Verify voice warning tape is operational.
18. Verify all radio fire alarm transmitting equipment and devices are operational.

19. Verify radio fire alarm receiving equipment is operational.
 20. Verify battery water level is correct, if applicable.
 21. Verify fuse ratings are correct.
 22. Verify rechargeable battery cell voltages are correct.
 23. Verify remote annunciators are operational.
 24. Verify operation of signal monitoring supervisory service.
 25. Verify alarm audibility has not been impaired.
 26. Verify all interconnected equipment functions as required.
 27. Verify approved plans are available on site (for certificate of occupancy).
 28. Verify installation of system procedure in accordance with approved plans (for certificate of occupancy).
- B. *Stairway Door Locks.* Stairway door lock systems shall be tested and certified annually. All certifications shall be conducted by the building engineering staff. The following system components and operations shall be tested as outlined:
1. Verify/ensure all locks release upon fire alarm, if applicable.
 2. Verify all locks release upon power failure.
 3. Verify required door keys are available at a central location (control room).
 4. Verify roof door(s) unlock on fire alarm, if applicable.
- C. *Fire Pumps.* Fire pump systems shall be function tested quarterly, and tested and certified annually using the appropriate AFD certification testing report form or an approved alternate. All certifications shall be conducted by an automatic sprinkler company licensed by the State of Texas. Quarterly function testing for high-rise buildings may be conducted by the building engineering staff. The following system components and operations shall be tested as outlined:
1. Verify and record the starting and running amperage on all circuit branches by the controller and to verify the controller meets the manufacturer's specifications and code requirements.
 2. Verify the proper operation of pump and controller running on/off sequence testing under normal and secondary power.

3. Conduct a flow test in accordance with the pump manufacturer's recommendations to verify that the pump meets characteristic curve and the proper system operational demand. Record flows and pressures.
4. Verify the operation fire pump on back-up power (if applicable).
5. Verify the pressure maintenance pump operates properly upon pressure drop. Record starting pressure reading.
6. Verify the automatic fire pump(s) operate properly upon water flow and/or pressure drop. Record starting pressure, if applicable.
7. Verify the manual fire pump(s) operate properly.
8. Verify the back-up pump operates as designed if lead pump fails (if applicable).
9. Verify the operation of control timers.
10. Verify the operation of controller transfer switch.
11. Verify the operation of all visual and audible indicators.
12. Verify that a maintenance log is kept indicating testing and service. The log shall be available for Fire Department inspection.
13. Verify plans are available on site (for certificate of occupancy and construction inspections).

D. *For Diesel Driven Fire Pumps* (In addition to 1-13)

1. Verify that adequate engine cooling is provided. If a radiator is used, verify that sufficient airflow is provided. If a heat exchanger is used, verify that a reliable and adequate water flow is provided to the shell side. For either case, verify a proper engine coolant to the required level is present in the tube side.
2. If the heat exchanger is not cooled by water from the pump discharge, verify the presence and proper operation of the discharge relief valve. A relief valve may or may not be present if pump discharge is used for engine cooling.
3. Verify the type and setting of the engine overspeed device and test the trip and alarm functions in accordance with manufacturer's recommendations (i.e., electrically, mechanically or both).

NOTE: A manufacturer's representative may need to be present for testing engine overspeed devices.

4. Verify that the engine operates within the manufacturer's guidelines for speed (rpm), water temperature and oil pressure.

5. Verify the proper operation of engine trips and/or alarms (as appropriate) for oil pressure and water temperature in all engine controller modes (i.e., "Test," "Automatic," and "Manual").
 6. Verify the operability of each starting mechanism i.e., each electrical starting circuit, air starting motor(s)] in all applicable controller modes.
- E. *Standpipes*. Standpipe systems shall be tested and certified annually and every five (5) years as described below. All certifications shall be conducted by a licensed automatic sprinkler company. The following system components and operations shall be tested as outlined:
1. Class 1 Standpipes
 - a. Verify fire department connection clappers move freely.
 - b. Verify fire department connection inlets move freely.
 - c. Verify fire department connection inlets have proper thread.
 - d. Verify fire department connection inlets are provided with caps/plugs.
 - e. Verify fire department connection is accessible and free of debris.
 - f. Verify the outlet hose valves are the proper size and thread.
 - g. Verify the hose and nozzles are in good condition including couplings, if provided.
 - h. Verify the proper supervision is provided for isolation and riser valves.
 - i. Verify the proper signage is provided for valves and equipment.
 - j. Verify the proper operation of all special equipment (i.e., freeze protection, pressure reducing valves, etc.).
 - k. Verify the piping and equipment is free of corrosive and mechanical damage.
 - l. Verify the overall system is complete and fully operational.
 - m. Verify approved plans are available on site (for certificate of occupancy).
 - n. Verify instrumentation of system provided in accordance with approved plans (for Certificate of Occupancy).
 - o. Hydrostatically test new or modified systems and/or if inspection indicates a need for such testing.

2. The following items need only be completed every five (5) years and at the time of certificate of occupancy for a Class 1 standpipe system:
 - a. For dry standpipes, hydrostatic test completed, 200 psig at the topmost portion of the system for two (2) hours.
 - b. Water flow function test at system's designed flow and pressure.
 - c. Verify proper settings or all PRV's under static and flow conditions.
 3. Class 2 Standpipes
 - a. Verify the fire department connection is operational, if provided.
 - b. Verify the outlet hose valves are the proper size and thread.
 - c. Verify the hose is in good condition including couplings.
 - d. Verify the means of hose storage is in good condition and operational.
 - e. Verify the hose nozzle is in good condition and operational.
 - f. Verify the proper supervision is provided for isolation and riser valves.
 - g. Verify the proper signage is provided for valves and equipment.
 - h. Verify the piping and equipment is free of corrosive and mechanical damage.
 - i. Verify the overall system is complete and fully operational.
 - j. Hydrostatically test new, or modified systems and/or if inspection indicates a need for such testing.
 4. The following items need only be completed every five (5) years for a Class 2 standpipe system:
 - a. Water flow function test at system's designed flow and pressure.
 5. Class 3 Standpipes. Class 3 standpipe systems shall be inspected utilizing the guidelines for Class 1 and Class 2 standpipe systems.
- F. *Automatic Sprinkler Systems.* Automatic sprinkler systems shall be tested and certified annually. All certifications shall be conducted by a state licensed automatic sprinkler company. The following system components and operations shall be tested as outlined:
1. General Sprinkler Procedures.

- a. Verify the fire department connection clappers move freely.
- b. Verify the fire department connection inlets move freely.
- c. Verify the fire department connection inlets have proper thread.
- d. Verify the fire department connection inlets are provided with caps/plugs.
- e. Verify the fire department connection is accessible and free of debris.
- f. Verify the protected area containing wet pipe is properly protected against freezing.
- g. Verify the local alarm devices are operational.
- h. Verify remote alarm service is operational where required.
- i. Verify adequacy of water supply (main drain test).
- j. Verify all sprinkler heads are less than 50 years old.
- k. Verify all specialized equipment (i.e., freeze protection, etc.) operates properly.
- l. Verify all interconnected equipment for proper operation.
- m. Verify proper operation and zoning of all flow switches.
- n. Verify sprinkler spray pattern is unobstructed.
- o. Verify sprinklers are free of dust, paint, residual build up and debris.
- p. Verify spare sprinkler heads and wrench are provided.
- q. Verify proper signage is provided for valves and equipment.
- r. Verify piping and equipment is free of corrosive and mechanical damage.
- s. Verify overall system is complete and fully operational.
- t. Flushing will be conducted prior to the hydrostatic test prior to the certificate of occupancy.
- u. Hydrostatic tests will be conducted upon initial installation (prior to obstructing view of piping).

2. The following tests for dry pipe sprinkler systems shall be conducted in addition to the tests specified in General Sprinkler Procedure above.
 - a. Verify the dry valve operates properly including quick opening devices (full flow trip test every 3 years).
 - b. Verify the dry valve priming water level is adequate.
 - c. Verify the air pressure is adequate.
 - d. Verify the proper operation of all compressors and timing of pumping system back in service.
 - e. Verify the air maintenance system operates properly.
 3. In addition to the tests specified above, for all sprinkler systems the following shall be conducted on all preaction/deluge sprinkler systems:
 - a. Verify the detection system is operational.
 - b. Verify the supervisory air pressure, if provided, is adequate.
 - c. Verify the activation valve operates properly.
 - d. Verify the automatic trip test function properly (total system function/no flow).
- G. Stairwell/Vestibule *Pressurization*. Stairwell/Vestibule pressurization systems shall be tested and certified annually. All certifications shall be conducted by a licensed contractor that is listed with the Austin Fire Department, Fire Marshal's Office as a Special Inspector. The following system components and operations shall be tested as outlined:
1. Verify the system operates automatically upon activation of the fire alarm system.
 2. Verify the system operates on emergency power.
 3. Verify and record the stairwell pressure differential readings across doors on top floor and ground floor, and every five (5) floors in between.
 4. Verify that stairwell door opening forces do not exceed 30 pounds with the stairwell pressurized and no stairwell doors open.
 5. Verify and record the vestibule pressure differential readings.
 6. Verify correct system operation using the firefighter's smoke control panel.

7. Submit a copy of the annual certification test report to the Austin Fire Department, Fire Marshal's Office.
- H. *Emergency Generator.* Emergency generator system shall be function tested quarterly, and tested and certified annually. All certifications shall be conducted by a licensed master electrician or an authorized generator company service representative. Quarterly function testing for high-rise buildings may be performed by the building engineering staff. The following system components and operations shall be tested as outlined:
1. Verify the generator starts upon power failure.
 2. Test the generator under available building loads and confirm no additional loads are placed on generator without prior approval. Load banks shall be added as necessary to test at a minimum of 30% of rating (preferably 50%), or as required/recommended by manufacturer. The generator system shall be exercised for a minimum of 2 hours for acceptance and annual tests.
 3. Verify all required systems are powered by the generator system.
 4. Verify and record volts - amps - Hertz (under load and no load). Record the hour meter reading at the start and end of the test.
 5. Verify the fuel supply is adequate for 2 hours at required building load.
 6. Verify the transfer switches operate correctly.
 7. Verify that the generator will shut off when normal power is restored.
 8. Verify the remote status and control panel functions properly.
 9. Verify the record of routine maintenance is being kept, indicating tests and service. The record shall be available for Fire Department inspection.
 10. Verify the operation of the generator set with manual start.
 11. Verify the approved plans are available on site (for certificate of occupancy and construction inspections).
 12. Verify installation of systems proceeded in accordance with approved plans (for certificate of occupancy).
- I. *Elevators.* Elevators shall be functionally tested quarterly, and tested and certified annually. All certifications shall be conducted by an elevator company service representative approved by the Building Official. Quarterly functional tests for high-rise buildings may be performed by the building engineering staff. The following system components and operations shall be tested as outlined:

1. Verify that the fire fighter's control switch inside each elevator car operates in the fire mode and that the elevators operate properly under normal power and emergency power, if applicable.
 2. Verify all elevators return to the appropriate floor in fire mode under normal power.
 3. Verify all elevators return to the appropriate floor in fire mode under emergency power, if applicable.
 4. Verify the floor controls are inoperative in fire mode.
 5. Verify that elevator doors open and close manually with key operation.
 6. Verify the proper operation of main lobby call-down switch.
 7. Verify the proper operation of remote control/status panel, if applicable.
 8. Verify the operation of elevator phone or communication equipment.
 9. Verify the proper signals are transmitted.
 10. Verify the proper operation and location of elevator smoke detectors.
 11. Verify the proper operation of emergency stop.
 12. Verify the proper operation of emergency alarm.
- J. *Smoke Management Equipment.* Smoke management equipment shall be tested and certified annually. Testing of openable/removable windows may be conducted by knowledgeable building engineering staff with. Testing of mechanical smoke management equipment shall be conducted by a licensed contractor that is listed as a Special Inspector with the Austin Fire Department, Fire Marshal's Office. The following equipment components and operations shall be tested as outlined:
1. Openable (Removable) or Tempered Glass Windows.
 - a. Verify that the equipment needed for opening removable/ openable windows is readily available and operational.
 - b. Verify that tempered windows are marked with a "T" decal located in the lower right or left hand corner.
 - c. Verify that tempered and removable/openable windows are accessible and not blocked with walls, partitions, cabinets, etc.
 2. Mechanical Smoke Management Equipment.

- a. Verify that smoke management fans, and all associated hardware operate correctly on primary and emergency power when activated by the zoned fire alarm system or zoned sprinkler system.
 - b. Verify that the firefighter's smoke control panel operates correctly on emergency and primary power.
 - c. For high-rise buildings provided with smoke exhaust, verify and record the number of air changes per hour provided on the fire floor(s).
 - d. For high-rise buildings provided with floor pressurization, verify and record the pressure differential provided relative to the fire floor.
 - e. Submit a copy of the annual certification test report to the Austin Fire Department, Fire Marshal's Office.
- K. *Sequence Tests.* The following instructions pertain to performing a sequence test of fire protection and life safety equipment. Sequence tests shall be conducted annually by representatives of the building management/ engineering staff, the Austin Fire Department, and such qualified personnel as needed. The Fire Department may decline to observe the test, and instead accept documentation of the test provided by qualified personnel.
- 1. Determine what equipment in the building will be affected in this test.
 - 2. Determine how many people or companies are needed to participate in the test. The building owner should develop a testing plan prior to the test.
 - 3. Arrange a time to test and call all parties concerned (including the Austin Fire Department).
 - 4. On the day of the test, position people at all test locations.
 - 5. Test on normal power.
 - a. Activate the fire alarm system from a randomly selected alarm device.
 - b. Verify that the alarm sounds on all designated floors.
 - c. Verify that all elevators return to the lobby and remain with their doors open (unless an alternative is approved by the Fire Chief).
 - d. Ensure that the fire dampers in the building operate (if applicable).
 - e. Ensure that the building HVAC (air conditioning) shuts down (if applicable).
 - f. Ensure that stair and elevator shafts pressurize (if applicable).

- g. Ensure that the stairway doors unlock (but do not unlatch), including door to control center and entrance door(s) to the building.
 - h. Start fire pump (if applicable) automatically.
 - i. Verify smoke removal system functions.
 - j. Verify communication system functions.
6. Test on Emergency Power.
- a. Shut off building power (main circuit breakers).
 - b. Ensure that the emergency generator operates (if applicable).
 - c. Verify fire alarm system continues to operate. "All call" full load test on voice alarm systems.
 - d. Verify designated elevators operate.
 - e. Verify the status of fire dampers (open or closed).
 - f. Verify that pressurization of shafts and HVAC shutdown is the same as test on normal power.
 - g. Verify that the stairway door locks operate.
 - h. Verify fire pump operation (if applicable).
 - i. Verify all auxiliary equipment operates.
 - j. Verify transfer switches work on generator.
 - k. Verify that the generator shuts down automatically after normal power is restored.
 - l. Verify emergency lighting operates (if applicable).
 - m. Verify other systems operate (smoke removal, etc.).

L. *Foam Systems.*

- 1. Foam systems shall be tested and certified annually and at five (5) years. All certifications shall be conducted by a fire protection systems company licensed by the State of Texas. The following equipment components and operations shall be tested as outlined:

- a. Inspect all proportioning devices, their accessory equipment, foam chambers and foam makers to assure they are not blocked and are in operating condition.
 - b. Inspect all aboveground piping to determine that it is in sound condition and that proper drainage pitch is maintained.
 - c. Inspect all strainers to assure they are in sound condition and clear.
 - d. Test control valves for proper operation and position.
 - e. Inspect the foam concentrate and their tanks or storage containers for evidence of excessive sludge or deterioration.
 - f. Verify that the actuation system, if provided, is operational.
2. The following items need only be completed every five (5) years for a foam system:
 - a. Complete hydrostatic test.
 - b. Perform water and foam flow function test at system's designed flow.
 - c. Spot check the underground piping for deterioration.
 - d. Test for foam concentrate quality by approved laboratories.

M. *Fire Escapes.*

1. Fire escapes shall be functionally tested annually, and tested and certified every five (5) years. Fire escapes shall be accessible and structurally safe at all times. Owners of buildings containing fire escapes shall have load tests of fire escapes conducted at least once every five (5) years with a weight of not less than 100 pounds per square foot, the results of which shall be submitted in writing to the Fire Chief under the seal of a registered professional engineer. Annual functional testing may be performed by the building engineering staff.
2. In lieu of such a test, the Fire Chief may accept documentation from a registered professional engineer that the fire escape is structurally safe and will support a live load of 100 pounds per square foot on all load-bearing surfaces

N. *Halon/FM 200/Inergen/Carbon Dioxide Systems.* Halon and carbon dioxide systems shall be tested and certified annually. Acceptance Testing shall be performed in accordance applicable NFPA Standards. All certifications shall be conducted by a fire protection systems company licensed by the State of Texas. The following equipment components and operations shall be tested as outlined:

1. Verify the operation of fire alarm detection system including all detection devices and associated equipment.
 2. Verify that the quantity of agent and pressure are adequate to protect the hazard as designed.
 3. Verify that the weight and pressure of the container is recorded on a tag attached to the container.
 4. Verify the nozzle caps are in place, if applicable.
 5. Verify that the system is free of mechanical damage.
 6. Perform discharge test on required systems at time of installation to assure proper function.
- O. *Rangehood Systems.* Rangehood systems shall be tested and certified semi-annually. All certifications shall be conducted by a fire protection systems company licensed by the State of Texas. The following equipment components and operations shall be tested as outlined:
1. Verify that the agent quantity and pressure is adequate to protect the hazard.
 2. Verify all lead and wire seals are intact on the manual activator.
 3. Verify that the system is free of mechanical damage.
 4. Verify that blow off caps are in place or self-closing caps function properly.
 5. Verify the correct positioning of all nozzles.
 6. Verify that the fusible links have been replaced annually.
 7. Verify the proper cable nut travel tolerances.
 8. Test the system operation at the terminal link to verify proper operation including an air discharge test for initial testing following installation, unless air tested by manual trip as described below (do not discharge test during periodic tests).
 9. Test the system operation at the remote manual trip to verify proper operation including an air discharge test for initial testing following installation, unless air tested by link operation as described above (do not discharge test during periodic tests).
 10. Test the system operation and proper operation of microswitch.
 11. Verify that the system is visible and free from obstructions.

12. Verify the inspection and service tag is attached to the system cylinder and properly completed.
 13. Verify the proper hand portable extinguishers are available and properly serviced.
- P. *Dry Chemical.* Dry chemical systems shall be tested and certified semi-annually. All certifications shall be conducted by a fire protection systems company licensed by the State of Texas. The following equipment components and operations shall be tested as outlined:
1. Verify that the agent quantity and pressure is adequate to protect the hazard.
 2. Verify all lead and wire seals are intact on the manual activator.
 3. Verify that the system is free of mechanical damage.
 4. Verify that the blow off caps are in place or self-closing caps function properly.
 5. Verify the proper positioning of all nozzles.
 6. Verify that the automatic actuator functions properly.
 7. Test the system operation at the remote manual trip to verify proper operation (actuation function test/not discharge test).
 8. Verify the shutdown of appropriate devices, if applicable.
 9. Verify no significant debris has accumulated in the nozzles.
 10. Verify that the discharge pattern is unobstructed.
 11. Verify the inspection and service tag on system cylinder and properly filled out.
 12. Verify that no coagulation or caking of dry chemical has taken place.
- Q. *Controlled Access/Egress Systems*
1. Verify the approved plans are available on site for construction inspections and certificate of occupancy.
 2. Verify the installation proceeds as per approved plans.
 3. Verify the normal operation of the system.
 4. Verify the operation of the system under simulated fire conditions.
 5. Verify the fail open operation of the system due to power loss.

6. Verify the appropriate interconnected equipment for proper operation.
7. For touch sensor bars, verify that the lock will release when touched by a hand wearing a firefighter's glove.

**SECTION 4
FIRE PROTECTION RULES**

TABLE OF CONTENTS

	Page Number
4.1.0 GENERAL	4-2
4.2.0 ADMINISTRATIVE PROVISIONS	4-2
4.3.0 DEFINITIONS AND ABBREVIATIONS	4-10
4.4.0 GENERAL PROVISIONS FOR FIRE SAFETY	4-10
4.5.0 SPECIAL OCCUPANCY USES AND PROCESSES	4-24
4.6.0 UNIFORM FIRE CODE APPENDICES	4-29
4.7.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 13 AND LOCAL AMENDMENTS	4-29
4.8.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 14 AND LOCAL AMENDMENTS	4-31
4.9.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 20	4-31

SECTION 4 - FIRE PROTECTION RULES

4.1.0 GENERAL

A. Rules made by the City of Austin for the Fire Code will be contained within this section. The purpose of this section is to outline the rules issued by the City of Austin pertaining to specific codes, standards and amendments. Such rules are promulgated to administer and implement the Fire Code.

B. Rules reference appropriate International Code sections or other adopted standards. Rules are in the same order as the referenced sections.

4.2.0 ADMINISTRATIVE PROVISIONS

(Reserved) (Chapter 1 of the Fire Code (LDC Chapter 25-12, Article 7))

CITY OF AUSTIN FIRE PROTECTION RULE

Zoning Requirements in LDC Section 25-2-516 and International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 104.9

**TABLE 104.9
MINIMUM CONSTRUCTION REQUIREMENTS WITHIN 200 FEET OF A HAZARDOUS PIPELINE¹**

The following shall apply to exterior walls within 200 feet of the pipeline.

DISTANCE TO CENTER OF PIPELINE	<50 FEET		50 FEET TO <100 FEET		100 FEET TO 200 FEET		150 FEET TO 200 FEET
	Wall	No Wall	Wall	No Wall	Wall	No Wall	
EASEMENT BARRIER	Wall	No Wall	Wall	No Wall	Wall	No Wall	Requirements May be Reduced Through A Case By Case Review By AFD.
CONSTRUCTION TYPE	V-A	II-A	V-B ²	V-A ²	V-B	V-B ²	
OPENING PERMITTED	Protected	NP	Note 3	Note 3	IBC	IBC	
ROOFING MINIMUM	NC	NC	Class A or B	Class A or B	Class A or B	Class A or B	

1. This rule in no way lessens the provisions of the Building Code (25-12-1) for type of construction, height, area, or opening protection.
2. Exterior surfaces shall be of noncombustible or limited combustible material approved by the Fire Chief (e.g. masonry or HardiBoard ©)
3. Openings less than 100 feet from the center of the pipeline shall be of solid core doors, tinted double pane windows, or double pane low "E" glazing.
4. NP means not permitted.
5. NC means noncombustible.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 105.4, and 907.1.1

Minimum ~~S~~submittals for proposed sprinkler monitoring systems shall be as follows.

The Austin Fire Department accepts documentation in the form of a letter, backup battery calculations, and equipment data, for installations of systems to be used to only monitor fire sprinkler systems (i.e. no local evacuation alarms). The letter must be written and submitted in accordance with the following guidelines:

1. Documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/department/fire> completed Fire Alarm System (New) fee calculation form, and the required fee must be included with the submittal, the form can be found on line @ <http://www.austintexas.gov/department/afd-plans-review>
- 1-2. Letter must be written and signed by the firm's APS, on the installing contractor's letterhead, with State License number shown, and with the following information:

- a. Project name and address, including suite number if applicable.
- b. Material equipment list, with data sheets attached.
- ~~c.~~ Indicate that the installation and materials shall be in accordance with NFPA 72, and that v
- ~~d.~~ Voltage drop and backup battery calculations have been performed and are in accordance with NFPA 72 requirements shall be attached.
- ~~e-e.~~ Indicate the communication method used between the site and the monitoring station.

~~2-3.~~ Contractor may hand carry, mail, email, or fax the above information to ~~an~~ AFD plan reviewer for review, or may make an appointment to meet with ~~the a~~ reviewer, if time permits. After ~~checking reviewing~~ the letter submittal, the reviewer will stamp the letter approved, if acceptable as appropriate to indicate the result of the review, and return ~~(or fax)~~ it to the contractor.

4. The approved letter must be on site and be available for the AFD inspector prior for the system test.

~~3-5.~~ The review of sprinkler monitoring system letter submittals will be handled in the same manner as remodel plan submittals. Inspections will not be scheduled until the letter submittal has been approved and returned to the contractor.

~~Note: Normal plan submittals with 7 day turnaround times will still be accepted for these installations if desired.~~

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 105.4, and 907.1.1

The following Requirements for letters from fire alarm contractors ~~to may~~ be used in place-lieu of a full plan submittal for installation of 5 or fewer fire alarm ~~less audiovisual~~ devices.

The Austin Fire Department ~~will now~~ accepts documentation in the form of a letter, simple plan, and calculations, for remodels involving 5 or fewer fire alarm devices on an existing system for installations of 5 or less audiovisual devices. The plan must show the limits of work, and be drawn to scale or dimensioned, and indicate the candela rating of any strobes to allow device spacing to be checked.

If involves only the installation of duct detectors, the plan view may be omitted, but the locations of the duct detectors must be indicated by a permanent means at the FACP and on the ceiling beneath the duct detector location(s).

The letter must be written and submitted in accordance with the following guidelines:

1. Documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/department/fireA> completed Fire Alarm (Remodel) fee calculation form and the required fee must be included with the submittal. The form may be found online at <http://www.austintexas.gov/department/afd-plans-review>.

~~1-2.~~ Letter must be written and signed by the firm's APS, on the installing contractor's letterhead, with State License number shown, and with the following information:

- a. Project name and address, including suite number if applicable.
- b. Number and type and part numbers of devices added, moved, or deleted(candela rating).
- ~~c.~~ Indicate that the installation, calculations, and materials shall be in accordance with NFPA 72, and that
- ~~d.~~ Submit voltage drop and backup battery calculations have been performed and are in accordance with NFPA 72 requirements.
- ~~e-e.~~ For notification circuit remodels, submit voltage drop and current calculations accounting for affected circuits and power supplies per AFD guidelines below.

~~2.~~ Contractor ~~must hand carry, may mail, email, or fax the letter and plan to AFD plan review, or may~~ make an appointment with an AFD plan reviewer, and bring the letter in for approval along with a plan showing the proposed device locations if time permits. After reviewing the letter submittal, the reviewer will stamp the letter

~~as appropriate to indicate the result of the review, and return it to the contractor. After checking the plan for basic device spacing, the reviewer will stamp the letter approved, if acceptable.~~

- ~~3.~~
4. The approved letter and plan must be on site and be available for the AFD inspector prior to the fire alarm system test.
5. Be advised, for initiating devices added on software controlled systems, a test of 10% or 50 devices on the same circuit will be required per 2013 ed. NFPA 72, Sec. 14.4.1.2.1.4.
6. If signaling devices are being added, AFD must try to ensure that notification circuits (strobe and audible circuits) are not overloaded. Submittals involving the addition of new notification/signaling devices to existing circuits require one of the following approaches to document the circuit and power supply capacity, and allow realistic calculations to show the final current and voltage values for the remodeled circuit and power supply:
 - a. **For jobs where all the devices on the circuit are known:** Show on the plan all the devices on the altered circuit (existing devices not part of the work can be shown on a riser diagram), from the end of line resistor to the power supply, account for all devices in the submitted voltage drop and current calculations. Indicate on the plan the make and model of the power supply, the circuit capacity and total capacity of the power supply, and the total load measured (or calculated) on the other power supply circuits.
 - b. **For jobs where all the devices on the circuit are not known:** Show on the plan all the known devices on the circuit to be altered (existing devices not part of the work can be shown on a riser diagram), and the location of the end of line resistor with the following field measurements shown:
Note: No. 1 and 2 measurements below are to be taken on the unaltered existing circuit which will have proposed devices added.
 1. Voltage at end of line resistor while circuit is activated.
 2. Total current on the circuit when activated.
 3. Total current from all circuits on the power supply when activated.Use the above measurements in the submitted voltage and current calculations. Indicate on the plan the make and model of the power supply, the circuit capacity and total capacity of the power supply, and the total load measured on the other power supply circuits.
7. For all field measurements, indicate on the plan the date and location of the measurement, and the name of the technician taking the measurement. For all remodel jobs, field measurements documented as detailed above, will be acceptable as part of the calculations.
- ~~3-8.~~ The review of 5 or less alarm device letter submittals will be handled in the same manner as remodel plan submittals. Inspections will not be scheduled until the letter submittal has been approved and returned to the contractor.

~~Note: Normal plan submittals with 7-day turnaround times will still be accepted for these installations if desired.~~

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 105.4, and 907.1.1

The following requirements for letters from fire alarm contractors maybe used in lieu of a full plan submittal in cases where only the existing FACP (Fire Alarm Control Panel) is to be replaced in an existing fire alarm system and no other alterations are to be made to the existing system.

The Austin Fire Department accepts documentation in the form of a letter, a simple plan and calculations involving only the replacement of an existing FACP in an existing fire alarm system with no other alterations to the system.

The letter must be written and submitted in accordance with the following guidelines:

1. Documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/department/fire>
2. A completed Fire Alarm Panel Replacement fee calculation form (the form can be found online @ <http://www.austintexas.gov/department/afd-plans-review>), filled out as follows: Inspection portion, (top half) for Item A include all devices in the entire system and if answer to line item C6 is "No" then enter 10% of total

device in Line A for item C, if answer to line item C6 is “Yes” then enter the same number of devices as shown in Line A for item C. Plan review portion, (bottom half), if answer to existing approved plans is “Yes” then enter 10% of device in Line A, if answer to existing plans is “No” then enter the same number of devices as shown in Line A.

3. Letter must be written and signed by the firm’s APS on the installing contractor’s letterhead, with State License number shown and the following information:
 - a. Project name and address, including suite number if applicable.
 - b. Outlining the procedures used to program the new panel (per item #4).
 - c. Stating if 10% or 100% of the devices shall be tested (per item #4).
 - d. Indicate that the installation, materials and calculations shall be in accordance with NFPA 72.
 - e. Method used to verify adequacy of power for signaling circuits.
4. Data sheet for the new FACP, backup battery calculations and voltage drop calculation if NAC circuits are connected to and powered by the new FACP.
5. FACP replacement that involves a simple conventional panel or a “plug in, to reprogram” as outlined in the submitted letter shall require testing of a minimum of 10% of the devices controlled by the panel. Any FACP replacement that involves “key strokes” to reprogram the system for the new FACP shall require testing of 100% of the devices controlled by the panel.
6. The following plans shall be required to be on site at the time of the test/inspection: Either the original approved plans with an obvious and clear note added to the plans indicating the new FACP was added by your firm or field verified Asbuilts submitted to AFD and approved prior to testing (Asbuilts need only show existing device types, locations and candelas of notification appliances connected to the FACP and asbuilts shall be signed by the APS with a note indicating that the plans reflect only devices visible from a floor level visual survey). Note: The plans must clearly indicate model number and manufacturer for each symbol shown on the plans so compatibility of equipment with new FACP can be verified. If this information is not shown on the original record drawings or asbuilts then the contractor shall add this to the plans.
7. Contractor may hand carry, mail, email or fax the letter and plan to AFD plan review or may make appointment with an AFD plan reviewer if time permits. After reviewing the letter submittal the reviewer shall stamp the letter accordingly and return it to the contractor.
8. The approved letter and plan must be on site and be available for the AFD inspector prior to the fire alarm system test.
9. The review of letter submittals for panel replacement only will be handled in the same manner as remodel plan submittals. Inspections will not be scheduled until the letter submittal has been approved and returned to the contractor.

Note: In order to minimize the time that a property is unprotected if an FACP is out of service, the replacement FACP may be installed and the system returned to service while the asbuilts are completed or while waiting for the inspection/test.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 105.4, and 907.1.1

The following requirements for letters from fire alarm contractors maybe used in lieu of a full plan submittal in cases where only the existing fire alarm devices are to be replaced on a 1 for 1 basis with no changes to the device locations, coverage or any other alterations to the system.

The Austin Fire Department accepts documentation in the form of a letter, a simple plan and calculations involving only the replacement of all or a portion of the existing devices in an existing fire alarm system with no change to the device locations, coverage or other alterations to the system.

The letter must be written and submitted in accordance with the following guidelines:

1. Documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/department/fire>
2. A completed Fire Alarm System (Remodel) fee calculation form (the form can be found online @ <http://www.austintexas.gov/department/afd-plans-review>), filled out as follows: Inspection portion, (top half) and the Plan Review portion (bottom half) enter only the number of devices that are going to be replaced 1 for 1 in the system.
3. Letter must be written and signed by the firm's APS on the installing contractor's letterhead, with State License number shown and the following information:
 - a. Project name and address, including suite number if applicable.
 - b. Material equipment list with quantity and type of devices with data sheets attached for each device type.
 - c. Indicate that the installation, materials and calculations shall be in accordance with NFPA 72.
 - d. Battery calculations for each FACP, Power Supply, Amplifier or similar type unit in the system that is affected by the 1 for 1 device replacement shall be attached.
4. When notification devices are replaced either voltage drop calculations or a table indicating both the current draw and end of line voltage for each NAC circuit as measured in the field while the circuit is active shall be submitted to account for the electrical characteristics of the "new" devices.
5. All devices that have been replaced shall be tested or a minimum of 10% of the total system devices per NFPA 72, whichever is greater.
6. The following plans shall be required to be on site at the time of the test/inspection: Either the original approved plans with an obvious and clear note(s) added to the plans indicating what devices have been replaced and the date they were replaced by your firm or field verified Asbuilts submitted to AFD and approved prior to testing (Asbuilts need only show existing device types, locations, candelas and new device addresses if applicable and shall be signed by the APS with a note indicating that the plans reflect only devices visible from a floor level visual survey).
7. Contractor may hand carry, mail, email or fax the letter and plan to AFD plan review or may make appointment with an AFD plan reviewer if time permits. After reviewing the letter submittal the reviewer shall stamp the letter accordingly and return it to the contractor.
8. The approved letter and plan must be on site and be available for the AFD inspector prior to the fire alarm system test.
9. The review of letter submittals for device for device replacement only will be handled in the same manner as remodel plan submittals. Inspections will not be scheduled until the letter submittal has been approved and returned to the contractor.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 105.6.20

HAZARDOUS MATERIALS RATING

The Fire Chief will verify the ratings upon review or request by the permit applicant. In those situations where the material has two (2) numeric ratings for the same hazard classification, the higher numeric rating will be used.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 105.6.20

DETERMINING HAZARD RATINGS

For the purpose of a Hazardous Materials Permit, all hazardous materials are categorized into the three (3) hazard classes

- Toxicity (or Health)
- Flammability
- Reactivity

Within each hazard class the materials will be assigned a hazard rating from 0 to 4 according to the criteria given in Appendix F of the ~~2003-2012~~ International Fire Code as amended. The hazard rating process requires an inventory of hazardous materials stored at the site. The inventory should include:

1. The location of the chemical,
2. The chemical or product name
3. The amount being stored

When documenting the name of the chemical, it is important to include its concentration when the chemical is in solution. The concentration of the chemical may influence how the chemical is categorized and its exempt amount. For example, a solution of 10% ethyl alcohol / 90% water is assigned a Flammable "2" rating; A solution of 20% ethyl alcohol / 80% water is assigned a Flammable "3" rating. The chemical's classification can also be affected by gas mixtures. For example, a compressed gas cylinder containing 1% hydrogen / 99% argon is not required to be included in an inventory because it is not flammable; a cylinder containing 10% hydrogen / 90% argon would be included since the mixture is flammable. The quantity of material being stored is required to be identified in pounds, gallons or cubic feet at normal temperature and pressure. For containers with volumes measured using metric values, conversion factors are available from the Fire Department. The Fire Department also maintains specific volumes for liquefied gases, e.g., chlorine, refrigerant gases, ammonia, propane.

Identifying materials that should be included in the permit application is accomplished by reviewing packaging markings and Material Safety Data Sheets (MSDSs). U.S. Department of Transportation (DOT) markings are directly affixed to the container or package. The marking may include an identification number or a placard that identifies the primary hazard of the chemical. In the case of pesticides, paints & coatings and other consumer commodities, packages are commonly marked with the hazard phrases like, "CAUTION," "WARNING," or "EXTREMELY FLAMMABLE." The following table summarizes the respective hazard ratings based on the hazard phrases.

Health Hazard Commodity Label	Hazard Rating	Flammable Hazard Commodity Label	Hazard Rating
DANGER, Poison N <i>Fatal if Swallowed</i> <i>(Inhaled or absorbed)</i> Corrosive, causes eye & skin damage [LD50 < 50mg/Kg]	4	EXTREMELY FLAMMABLE <i>Keep away from Fire, Sparks & Heated Surfaces</i> [Class I-A Flammable Liquids or classified by DOT as FLAMMABLE GAS]	4
DANGER, Poison N <i>Fatal if Swallowed</i> <i>(Inhaled or absorbed)</i> Corrosive, causes eye & skin damage [LD50 < 50mg/Kg]	3	FLAMMABLE <i>Keep away from Heat or Open Flame</i> [Class I-B & I-C Flammable Liquids]	3
WARNING <i>May be Fatal is Swallowed</i> <i>(inhaled or absorbed)</i> Corrosive, causes eye & skin irritation [LD50: 50 mg/Kg to 500 mg/Kg]	2	COMBUSTIBLE <i>Do not store or use near open Flame</i> [Class II and III-A Combustible Liquids]	2
CAUTION <i>Harmful is Swallowed</i> <i>(inhaled or absorbed)</i> Avoid contact with Skin, Eyes or Clothing [LD50: 500 mg/Kg to 5,000 mg/Kg]	1		

At locations where multiple chemicals are stored it is acceptable to report aggregate quantities. Rather than identify the quantity, physical state and hazard category for each chemical, the Fire Department will allow the permit applicant to group the chemicals based on physical state, hazard class and hazard ratings. Consider a laboratory using a variety of flammable liquids, flammable gases, health liquids and reactive solids. The lab uses seven different grades of flammable gases. All of the gases have limited health and reactivity hazards. Rather than identifying the quantity and grade of each particular grade, the permit applicant can sum the total quantity of flammable gases in the laboratory. Caution is advised when using this type of reporting; some chemicals exhibit multiple hazards. For example, methyltrichlorosilane is assigned the ratings, Health -3; Flammable - 3; Reactivity - 3; Special Hazards - Water Reactive & Corrosive. Because the hazard rating is equal to or greater than “2” in all three hazard categories, the chemical should be specifically identified in the inventory.

If the Fire Department is requested to classify the chemical, the permit applicant must supply the MSDSs for all of the products and the quantity proposed for storage and use. The Fire Department will return the MSDSs to the permit applicant upon request.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 105.6.20

HAZARDOUS MATERIAL RATING PROCEDURE

The City of Austin has adopted NFPA Standard 704 as the rating system in determining the health, flammability and reactivity hazards of chemicals for the purpose of issuing hazardous materials permits. NFPA 704 is a system that numerically indicates to Fire Department Personnel the relative hazard of a chemical when it is subjected to fire conditions.

The Austin Fire Department recommends the following procedure be utilized to determine hazard ratings:

1. Review the NFPA Fire Protection Handbook if the material in question is rated ~~by~~ in this reference book.
2. If the material in question is not included in the NFPA Fire Protection Handbook, refer to the Material Safety Data Sheet(s) to determine whether the MSDS contains an NFPA 704 or HMIS rating.
3. In the case where ratings are not provided by the NFPA Fire Protection Handbook, or the Material Safety Data Sheet(s), review the MSDS to determine the material's UN Identification Number, DOT Hazard Classification, flash point, boiling point, pH, LC50, LD50, and reactivity data. This information is necessary for proper classification of the chemical. If the MSDS does not contain the information, it should be requested from the manufacturer. Once the information is compiled, classify the chemical in question.
4. Acceptable information sources include but may not be limited to:
 - a. Sax Handbook of Dangerous Chemicals
 - b. Bretherick's Handbook of Reactive Chemical Hazards
 - c. NIOSH Pocket Guide to Chemical Hazards
 - d. Hazardous Materials Classification Guide
 - e. MSDS searches via the Internet

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 105.6.34.2

PLACES OF ASSEMBLY- Temporary Change of Use to a Public Assembly

Applications shall be submitted for consideration of "Temporary Change of Use". Applications are available on-line (<http://www.austintexas.gov/departments/afd-permits>~~www.ci.austin.tx.us/fire/fire_inspect.htm~~) or by contacting the Emergency Prevention Division.

Managing the ~~issued-approved temporary~~ occupant load is the responsibility of the individuals applying for the permit. The occupant load is the maximum number of people that will be allowed in the specified area of the occupancy. Separate occupant loads may be given for designated areas. Maximum loads will be identified on the permit. Multiple specified areas cannot be added together, as each area must not exceed its designated load. Failure to comply will result in the issuance of a citation and termination of the event.

In the event a citation is issued, no further permits will be granted for at least 60 days. Once eligible to apply for a permit, a crowd control plan must be submitted with the application. This plan must clarify control of entrance and egress measures while maintaining designated loads. Approval of this plan is required before issuance of permit.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 106.2

Inspections are required for all construction projects involving the installation or modification of fire protection systems, including but not limited to fire extinguishing systems, fire alarm systems, and smoke control systems, regardless of the number of sprinklers or devices involved.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 110, 311.5, ~~311.6~~, 316.~~67~~, 316.~~67~~.1, 505.3, and 505.3.1

The AFD Safety Office in cooperation with the Emergency Prevention Division has developed a program to identify structures that present, or would present under fire conditions, inordinate or unexpected hazards to firefighters and make such structures known to AFD Operations personnel. By making firefighters aware of existing hazards, AFD, and the public, may be able to keep firefighters safer during emergency operations. Recognizing a building as a dangerous structure will alert Company Officers to reconsider standard fire ground procedures and take a second look to determine the safety of operating within the structure. When the owner or responsible agent cannot or will not mitigate the hazards, AFD, under ~~2009-2012~~ IFC section 110.4 (Abatement), identify "Dangerous Structures" by posting the required address numbers at the entrances to the structure using distinctive white letters on red background. AFD will facilitate the posting of this address, at a nominal fee, to all buildings identified by the AFD Safety Office as dangerous structures.

4.3.0 DEFINITIONS AND ABBREVIATIONS

(Reserved) (Chapter 2 of the Fire Code (LDC Chapter 25-12, Article 7))

At this time there are no rules pertaining to these articles

4.4.0 GENERAL PROVISIONS FOR FIRE SAFETY

(Chapters 3 through 10 of the Fire Code (LDC Chapter 25-12, Article 7))

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 401.3.4

Facilities with on-site emergency response teams (ERT's) or fire brigades- compliant with the requirements of the U.S. Occupational Safety and Health Administration (OSHA) as promulgated in Title 29, Code of Federal Regulations, Part 1910.120 and/or Subpart ~~H~~- may develop emergency reporting procedures based in part on ERT/Fire Brigade staffing, qualifications, and equipment. Such procedures shall be submitted to the Fire Department for review and approval and such facilities shall be audited by the Fire Department to verify readiness of the ERT/Fire Brigade.

The Fire Department review and audit shall address the following areas and issues.

- 1 The facility shall develop and submit procedures which clearly outline the conditions for reporting to the Austin Fire Department. These conditions shall include any situation which presents or could present a threat to the environment and any situation which results in an injury requiring medical attention or in death. The reporting procedure shall comply with the reporting requirements of State and/or Federal regulations. In addition, all fires (including those extinguished by a Fire Brigade) shall be reported to the Fire Department at the time of occurrence.
2. The facility shall make available to the Fire Department all records pertaining to the training and qualifications of the ERT/Fire Brigade. Personnel may be identified by employee number in medical and training records for the sake of privacy. Sufficient information shall be provided to demonstrate the scope and completeness of facility training and medical surveillance programs.

3. The facility shall provide the training curriculum for the ERT/Fire Brigade for evaluation by the Fire Department. Such information may be classified as "Confidential".
4. The facility shall provide the qualifications of instructors used in the ERT/Fire Brigade training program.
5. The facility shall make available to the Fire Department complete spill and release logs (including those not required to be reported). Copies of requested records for specific responses shall be provided for Fire Department records. ERT/Fire Brigade logs shall include the information required by 29CR1910.120(c)(3) to be available prior to site entry (i.e. location and approximate size of the affected area, description of the response activity, duration of employee activity, hazardous substance name and physical state, and a list of mitigation and personal protective equipment used). Proprietary chemicals may be referred to by chemical class, and proprietary processes may be omitted. ERT/Fire Brigade personnel may be identified by employee number.
6. Annually, generally during scheduled inspections, the facility shall provide updated lists of mitigation and personal protective equipment provided and maintained for use during spill incidents.
7. The facility shall conduct drills of the ERT/Fire Brigade at least once every three months. At least once per year, the facility shall request the Austin Fire Department units participate in a drill. Personnel on a shift ERT/Fire Brigade shall be required to participate in at least one drill per year. Also refer to IFC sections 1803.4 and 408.4 for semiconductor fabrication facilities. If the shift ERT/Fire Brigade has participated in an actual response within the previous three months, the response may be considered to fulfill the drill requirement if a post incident critique is held which covers written training objectives developed as a result of lessons learned.
8. In accordance with Section 104.11 of the Fire Code, the Austin Fire Department maintains its full authority concerning fires and other emergencies. Inappropriate actions by an ERT or Fire Brigade may result in denial, revocation, or revision of the Fire Department's approval of a facility's reporting procedure.

The Fire Department shall consider the level of training, equipment, and complexity of drills in reviewing reporting procedures. For example, to relax reporting requirements for acid spills, a facility shall demonstrate that the ERT/Fire Brigade has the training and equipment to safely mitigate spills involving the types and quantities of acids indicated in the procedure.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 408.2.2

Safety announcements shall include explanations of fire protection systems, if any, in the occupancy, directions to all available exits, and meeting locations outside in case of evacuation. Safety announcements shall be made prior to live performances.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 501.3, 503, and 507

Construction documents related to site plan and building permit approvals shall address general emergency access provisions and construction sequencing that affects fire or life safety. One aspect of meeting this requirement is to include in the site plan submittal general construction notes which should include, but need not be limited to the following:

1. The Austin Fire Department requires final asphalt or concrete pavement on required access roads prior to the start of combustible construction. Any other method of providing "all-weather driving capabilities" shall be required to be documented and approved as an alternate method of construction in accordance with the applicable rules for temporary roads outlined in the City of Austin Fire Protection Criteria Manual.
2. Fire hydrants shall be installed with the center of the four (4) inch opening (steamer) located at least 18 inches above finished grade. The steamer opening of fire hydrants shall face the approved fire access driveway or public street and set back from the curb line(s) an approved distance, typically three (3) to six (6) feet. The area within three (3) feet in all directions from any fire hydrant shall be free of obstructions, and the area between the steamer opening and the street or driveway giving emergency vehicle access shall be free of obstructions.
3. Timing of installations: When fire protection facilities are installed by the contractor, such facilities shall include surface access roads. Emergency access roads or drives shall be installed and made serviceable prior to and during the time of construction. When the Fire Department approves an alternate method of protection, this requirement may be modified as documented in the approval of the alternate method.

4. All emergency access roadways and fire lanes, including pervious/decorative paving, shall be engineered and installed as required to support the axle loads of emergency vehicles. A load capacity sufficient to meet the requirements for HS-20 loading (16 kips/wheel) and a total vehicle live load of 80,000 pounds is considered compliant with this requirement.
5. Fire lanes designated on site plans shall be registered with the City of Austin Fire Department and inspected for final approval.
6. The minimum vertical clearance required for emergency vehicle access roads or drives is 14 feet for the full width of the roadway or driveway.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.1.1

The 150-foot measurement from a fire department access road to a building shall be measured around the building perimeter from the nearest access road to the most distant point of an exterior wall of the first story. (See 901S-1 in City of Austin Standards Manual)

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.2.3

The Austin Fire Department requires an all weather driving surface on fire apparatus access roads prior to construction. However, the acceptance of alternative road methods shall be allowed during construction with the approval of the Fire Chief in accordance with Section 104.8, 104.9 and ~~44103310~~.1 of Fire Code (LDC Chapter 25-12, Article 7). Any alternative roadway acceptance shall be predicated upon the following:

- A. Placement of all underground utilities and/or any other underground installations requiring ditching prior to placement of the roadway itself.
- B. Application of the road system in accordance with methods and specifications approved by the Fire Chief.
- C. Submittal of a letter by a registered professional engineer which states that the road application is in accordance with the aforementioned methods and specifications and shall include all necessary compaction test reports as required by the Fire Chief (generally 95% proctor or better). Such reports and tests shall be submitted to the Fire Marshal's office prior to building construction.
- D. Maintenance of such a road throughout the construction phase of the project to permit required access.
- E. A person desiring to construct such a road for building permit purposes shall state in writing the reasons for the necessity of an alternative system. Causes or reasons for requesting such an alternative shall be limited to the following, unless specifically included by the Fire Chief in writing:
 1. Construction practices which would, of necessity, constantly damage or destroy an asphalt or concrete application thereby causing unnecessary economic harm to the builder. Such conditions shall include reasonable expectation that the City of Austin may damage the roadway surface through ditching or other methods but specifically exclude any possible damage by concrete trucks, forklifts or similar equipment.
 2. Inability to receive over a continuous period [more than three (3) weeks] either cement or asphalt paving material in order to provide the necessary surfacing.
 3. Use of a paving material such as grasscrete or interlocking pavers which would of consequence be damaged by heavy trucks and construction activity.

It shall be the responsibility of the applicant to document and cite any of the aforementioned causes or reasons when requesting an alternative roadway approval by the Fire Department.

Maintenance: Should a person receiving approval for an alternative roadway method fail to provide necessary engineering reports showing compaction tests and completion, or fail to maintain in an adequate condition such alternative roads, then the Fire Department may take official action in accordance with Sections 109, 110, and/or 111 of the Fire Code (LDC Chapter 25-12, Article 7).

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.2.3

The Austin Fire Department requires that all weather pavement be of either concrete or asphalt construction.

Access roadways shall be finished by application of an all weather driving surface of hot mix asphaltic concrete or concrete pavement over a flexible base Engineered to provide a load bearing capacity in conformance with City of Austin Standard Specifications for city streets. Any pervious /decorative paving within 100 feet of any building must meet the same vehicle loading requirements. The pervious/decorative paving installation must be designed and sealed by a Professional Engineer, and approved by the Fire Department.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.2.4

Access roadways shall be designed with an appropriate 25-foot inside turning radius and a 50 foot outside turning radius at turns to accommodate any operational Fire Department apparatus. Turning radii for entrance and exit access roadways must also conform to current City of Austin driveway requirements; therefore, entrances and exits may have to be widened to satisfy both requirements.

*Access roadway requirements refer to access roads on private property subject to use by the Fire Department (business drives, apartment drives, etc.). For public street design refer to the City of Austin Standard Specifications and City of Austin Standards Manuals.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.2.5

Where Fire Department access roadways are longer than 150 feet and terminate at a dead end, approved provisions for turning around Fire Department apparatus shall be provided. The Austin Fire Department will approve a cul-de-sac with a minimum 50 feet unobstructed radius. A 25' x 80' "T" section or "Hammerhead" turn around is also acceptable, provided that an additional ten (10) feet of right of way around the 25' x 80' dimension can be provided with no obstruction over one (1) foot high. (See 901S-2 in the City of Austin Standards Manual)

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.2.7

Asphaltic hot mix concrete access roadways shall be engineered not to exceed 13 percent in grade. Concrete roadways shall be designed not to exceed 15 percent in grade. As an alternative where maximum road grades of 13 or 15 percent cannot be provided, a professionally designed sprinkler system may be installed as an alternative provided the building being considered is fully protected and the system is approved by the Austin Fire Department. Maximum immediate grade change or grade change within 20 feet shall not exceed 10 percent. Road grades must also be approved by other regulating departments in addition to Fire Department approval.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7) Reference Section 503.3

When used to mark fire zones, signs shall be in accordance with Texas Manual on Uniform Traffic Control Devices. Signs may use either symbols or letters (see 901S-5 and 901S-6 in the City of Austin Standards Manual).

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 503.6

Gates installed in fire department access roads shall have an unobstructed width of not less than 25 feet for two-direction traffic flow. Gate opening width may be reduced to 15 feet for single lane one-way traffic flow. With prior approval from the fire Prevention Division, access width at a property gate serving two direction traffic may be reduced to 20 feet for a distance not to exceed the 25 foot minimum inside turning radius when the location of the gate is not a potential point of apparatus placement for fire fighting activities involving nearby structures.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7) Reference Section 505

The minimum size for exterior premises identification numbers (master street address numbers) for complexes such as strip centers, malls, apartment complexes, etc. shall be eight (8) inches in height. Exterior business suite and office numbers shall not be less than four (4) inches in height. These numbers shall be clearly distinguishable from the point of Fire Department access.

Whenever a building is set back from a servicing street or roadway at a distance preventing reasonably sized numerals or letters from being distinguished, the address may be posted at the street entrance on a substantial sign when approved by the Austin Fire Department. However, when more than one (1) building is located at the same numerical street address, each building must display a complete address including particular alphabetical or numerical building listings and individual occupancy numbers which must be clearly distinguishable from the access road servicing the building. The complete address must contrast with the background to which it is attached.

Multi-occupant buildings shall have all rear entrance(s) to each tenant space individually identified with proper suite/address numbers.

The street address of all projects under construction shall be posted in a conspicuous location prior to the beginning of construction at a particular building site. Temporary numbers may be painted over contrasting background on plywood or other suitable wood boards and clearly displayed on the public street frontage on which the project is addressed. Permanent numbers are required on buildings at completion and must be approved by the Austin Fire Department during the certificate of occupancy inspection.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 506

All structures or properties in which access is made difficult due to physical barriers (i.e., gates, fences, bollards, etc.) or where required by the Fire Code in commercial structures in which fire protection systems are installed shall provide a City of Austin approved key box or key switch, as applicable, with the proper keys to gain access to structure or property. If there are restrictions on vehicle egress from sites, these requirements shall apply to all such egress gates as well as to access gates. Please see the rule posted for International Fire Code Section 503.6 for gate width requirements.

The location of the key box shall be located at or near the primary Fire Department access into a building or project and on the building side of any gate requiring a key or code for exiting, or as approved by the Fire Department. Examples of such locations are diagrammed in Figure 4-3. The approved City of Austin key box shall be a "Knox Box." Application forms for a Knox Box may be obtained in the City of Austin Fire Department Fire Prevention Office. (See 901S-3 in the City of Austin Standards Manual)

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 507

The standard for required fire flow shall be as determined in Appendix B of the [2009-2012](#) International Fire Code.

Where buildings are protected throughout by an approved automatic sprinkler system, fire flow may be reduced in accordance with International Fire Code Appendix B, Section B105.2 provided the occupancy is not group H occupancy or group S-1 with high piled or high rack stock, or S-2 with high piled or high rack stock, as defined in the International Fire Code.

[Buildings constructed of Type III, Type IV or Type V construction will be limited to a 50% reduction for sprinklers designed in accordance with IFC Section 903.3.1.2.](#)

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 507

When actual fire flow for a project is undetermined (e.g., when buildings are not yet defined), the fire flow shall not be less than the flow outlined in the table below:

**TABLE 507-1
WATER SUPPLY DETERMINATION**

Occupancy/Use	Minimum Water Supply (gpm)
Residential, Single-Family, <3,600 sq ft	1000
Residential, Single-Family, >=3,600 sq ft	2500
Residential, Multifamily	3500
Retail	3500
Storage	3500
Industrial	3500
Source: City of Austin, Fire Department	

For the purposes of this rule, the above referenced uses shall carry the following definitions:

A. Residential Uses.

RESIDENTIAL SINGLE FAMILY -- occupancies or structures in which the primary use is the housing of one (1) or (2) two families in a single structure.

MULTIFAMILY -- Occupancies or structures in which the primary use is the housing of three (3) or more families in a single structure.

B. Commercial Uses.

MERCANTILE -- Occupancies or structures in which the primary use is the sale of products or a service. Retail includes sales areas, assembling areas in which no manufacturing is taking place, administrative or instructional offices or low bulk storage required for conducting business.

STORAGE -- Occupancies or structures in which the primary use is the bulk storage of products or property in a single structure. Storage includes all unclassified structures which may be used as outlined in [Article Chapter 81-32](#) of the [Uniform-International](#) Fire Code.

INDUSTRIAL -- Occupancies or structures in which the primary use is the manufacturing of a product or components for a final product. Industrial may include the assembling of components into a final product.

CITY OF AUSTIN FIRE PROTECTION RULE

Hydraulic Design

- A. For the purposes of this rule, a hydraulically designed system is one in which pipe sizes are selected on a pressure loss basis to provide a prescribed fire flow (gallons per minute at 20 psi residual system pressure).
- B. All water construction documents shall have hydraulic calculations supporting the specified pipes sizes.
- C. Flow Test.
 - 1. Flow test data shall take into account minimum pressure conditions due to heavy water demands on the system, i.e., heavy summer usage.
 - 2. Flow test information that is provided by the City of Austin is done so upon request. Such information represents the water supply characteristics in the immediate area on the noted date and time. The City of Austin does not guarantee that this data will be representative of the water supply characteristics at any time in the future. The engineer or designer of record will be fully responsible for the use and application of such data to ensure proper design and compliance with appropriate codes.
- D. Calculations.
 - 1. Formulae.
 - a. Friction loss formula. Pipe friction losses may be determined by any recognized hydraulic formula or method. These formulae or methods include Hazen-Williams, Darcy-Wiezbach, etc.
 - b. For underground and normally flowing mains, calculate pipe friction loss in accordance with the chosen formula with friction loss coefficients ("C") values from Table 507-2 below:

**TABLE 507-2
ACCEPTED "C" VALUES
(For Flowing Mains and Underground Mains)**

Pipe Material	Hazen-Williams "C" Valve
Unlined cast or ductile iron	80
Black steel	80
Galvanized Steel	80
Plastic	110
Resin lined	110
Reinforced cement	80
Cement lined cast or ductile iron	80
Copper	110

Source: City of Austin

- c. Velocity formula. Water velocity may be determined by any recognized formula.
- d. Units. All output data shall be present in the following units:

Item
Flow
Pressure
Velocity

Units
Gallons per minute (gpm)
Pounds per square inch (psi)
Feet per second (fps)

- 2. Calculations Procedure.
 - a. Calculating System from Constant (City of Austin) Supply.

- i. The calculated fire flow shall be delivered to the most hydraulically remote area of the project while maintaining a pressure of 20 pounds per square inch in all portions of the water supply system being analyzed.
 - ii. The domestic water supply flow shall be addressed as required by the Austin Water Utility.
 - iii. Velocity. A maximum velocity of ten (10) feet per second shall not be exceeded in the water supply (upstream of sprinkler system, standpipe system check valve, or a six (6) inch tap for a fire hydrant) network while the fire flow is being delivered.
 - iv. Time duration. Mathematical simulation may be necessary to demonstrate system reaction before, during and after an extended fire flow period from IFC Table B105.1.
- b. Calculating Systems from Limited Supply Sources. Since limited supply source is less reliable than a constant supply during peak domestic usage, the following restraints shall be imposed for systems taking supply from limited sources (i.e., ground, elevated and well storage):
- i. Calculations shall begin from the point of 80 percent of the limited supply's total (full) capacity.
 - ii. Fire flow, domestic and velocity requirements are as outlined above.
 - iii. Time duration. An extended period mathematical simulation (EPS) shall be required to demonstrate the system's reactions before, during and after the fire flow period. The limited supply shall be considered "hydraulically empty" when it is no longer a benefit to the system or when system flow or pressure drops below what is required. The total fire flow period shall not be less than the duration stated in IFC Table B105.1.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 507.5

Fire Hydrants

A. Type of Fire Hydrants.

- 1. All hydrants must meet City of Austin Water and Wastewater standards.
- 2. Every hydrant installed, regardless whether private or City maintained, shall have not less than two (2) 2-1/2 inch outlets with National Standard Thread and one (1) 4 inch pumper outlet with City of Austin thread (#16, six (6) threads per inch, blunt start or "Higbee Cut," 4.859 inch outer diameter, 4.625 inch root diameter).
- 3. Every hydrant installed shall be capable of flowing not less than 1250 gpm at 20 psi residual pressure.

B. Location of Hydrants.

1. A fire hydrant is required for every 1,250 gpm, or fraction of 1,250 gpm, of required fire flow. The Austin Fire Department requires a minimum of one (1) hydrant within 400 feet of all portions of exterior walls (first floor) of new buildings, other than single family and duplex dwellings which are less than 3,600 square feet in area. For buildings that require a fire flow of 1,500 gpm up to and including 2,500 gpm, a second hydrant is required within 500 feet of all portions of exterior walls (first floor).
- a. For single family and duplex dwelling structures less than 3,600 square feet the distance to a hydrant as measured by this section and rule shall be less than or equal to 600 feet.
 - b. For structures that are protected by automatic sprinklers, the distance to each of the first two (2) hydrants shall be less than or equal to 500 feet

2. These measurements are taken around the perimeter of the building and down the access road to the hydrant (EACH MEASUREMENT IS ALONG THE PATH OF TRAVEL AND IS NOT TAKEN AS A RADIUS). For required fire flows in excess of 2,500 gpm, the distance from additional hydrants will be located less than 1,000 feet from the structure but also hydraulically evaluated to ensure that the flow can be delivered through the length of large diameter fire hose necessary to reach the planned structure.

C. Installation of Hydrants

1. Hydrants shall be installed in accordance with City of Austin Standards.

- a. If it appears likely that fire hydrants are vulnerable to vehicular damage, appropriate crash posts ([bollards](#)) shall be provided. Crash posts shall be four (4) inch schedule 40 iron pipe, cement filled and a minimum of three (3) feet high with two (2) feet of piping below the grade. No obstructions shall exist within a three (3) foot radius of fire hydrants.
- b. Fire hydrants must be installed with the center of the four (4) inch steamer opening at least 18 inches above finished grade. The four (4) inch opening must face the driveway or street and must be totally unobstructed to the street. Set back from the face of the hydrant to the back of the curb shall be in accordance with City of Austin Standards except that on private property, set back shall be three (3) to six (6) feet to avoid vehicular damage, unless specifically approved by the Fire Chief.

2. Hydrants shall be installed at the intersection of two (2) streets and in between intersections at distances not in excess of 300 feet between hydrants or as approved by the Fire Chief.

3. Hydrants shall be installed on both sides of all divided roads/ highways. Roads/highways where opposing lanes of traffic are separated by a vehicle obstruction shall be considered a divided road/highway.

4. No obstructions shall be within three (3) feet radius of the hydrant. The four (4) inch pumper connection shall be totally unobstructed to the street or drive.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 508

Elevator status/control panel shall be equipped with visual indicators showing the location of each elevator car. Hand/key switches to recall individual elevator cars, bypass floor controls and reset the elevator equipment to normal operation shall be provided.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 508

A hand operated on/off/automatic switch shall be provided for each air-handling unit. Visual indicators shall be provided to clearly identify in which mode the air-handling unit is operating. In addition, smoke dampers shall be provided with manual controls and visual indicators for use by the Fire Department.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 508

A remote control/annunciator, meeting the requirements of NFPA 110, shall be provided in the [Central Control Station Fire Command Center](#). The acronym "RA" in Table 5.6.5.2 of NFPA 110 – 2010, shall indicate that distinct remote audible alarms or visual indication clearly identify the alarm received.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 508

| The telephone required by Building Code (LDC Chapter 25-12, Article 1) Sections ~~403.4 and~~ 911.1.5, for Fire Department use shall be a single party line independent of operator switchboards and in addition to any alarm panel retransmission lines that are present.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 606.1

Any installation that remains at a single location for more than 30 days is considered “permanent” in accordance with IFC section-105.6.20.7. For an installation to be considered “portable”, the quantity of refrigerant must be less than the exempt amount and the equipment must be designed to be transported.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 401.3.1, 606.13, and 2703.3.1

Incidental discharges of refrigerants that are “Extremely Hazardous Substances” as defined in Chapters 505-507 of the Texas Community Right-to Know Acts shall be immediately reported to the Fire Department. For anhydrous ammonia (R-717), the reportable quantity is 100 pounds.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 607.1

When activated, the smoke detector(s), required by the Building Code (LDC Chapter 25-12, Article 1, Sections 403.6 and Chapter 30) and ANSI A17.1 Elevator Code within the elevator lobby(ies), that are installed in buildings with required fire alarm systems, shall annunciate on the fire alarm control panel and cause the appropriate floor alarms to sound.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 703.1 and 703.2

| Fire sprinklers may be used to protect fixed glazing, that is not fire protective or fire resistive as defined in the International Building Code, in fire-rated walls provided that such glass is protected by Listed glass protection sprinklers installed per their Listing.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 202 and International Building Code (LDC Chapter 25-12, Article 1), Reference Section 404.6

Any area in an atrium building not separated from the atrium by a one (1) hour assembly or equivalent shall be considered one (1) of the three (3) floors allowed to open to the atrium. This provision applies to all areas (i.e., corridors, restaurants, mercantile areas, etc.) open to the atrium which are not exit balconies.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 105.4, 901.2, 901.6, 907.1.1, and 907.98.5

“As-built” drawings and/or approved plans for fire protection systems shall be maintained on premises.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 901.5 and 909-18, and International Building Code (LDC Chapter 25-12, Article 1), Reference Section 909.18.

Prior to issuance of a building certificate of occupancy, all mechanical smoke management systems are required to be inspected and tested by a special inspector or special inspection agency as required by Section 909.3 of the Building Code (LDC Chapter 25-12, Article 1). A final report shall be submitted to the Austin Fire Department, Fire Marshal's Office for approval.

A copy of the Building Smoke Management Systems Special Inspections Guidelines is included in Section 3 of this manual.

Performance tests for occupancy inspections developed by the registered professional engineer of record and acceptable to the Fire Department shall be conducted on the smoke removal and control systems to demonstrate the adequacy of design in accordance with the Building Code and approved plans.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 901.5 and 903.5

Approval of sprinkler systems modifications will not require the Fire Department's witnessing a hydrostatic test if the modification required the relocation, addition, and/or deletion of less than 100-20 sprinklers, ~~with the following exceptions:~~

- ~~1. All new branch lines having more than 2 sprinklers must be hydrostatically tested. The test may either be before or after connection to the system.~~
- ~~2. The addition to or relocation of more than 50% of the total sprinklers in an existing system shall require a hydrostatic test per NFPA 13 regardless of the number of sprinklers affected, except as permitted by NFPA 13 and/or NFPA 25.~~

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 901.5 and 901.6

All fire protection and life safety systems shall be tested and certified before a certificate of occupancy approval is granted by the Fire Department and thereafter by qualified personnel in accordance with applicable national standards, including but not limited to NFPA 25 and NFPA 72. Tests shall be conducted in accordance with appropriate rules contained in Section 3 (Inspection Process) of this manual.

All annual and five (5) year test results shall be recorded on standard forms contained in Appendix B of this Fire Protection Criteria Manual.

Copies shall be maintained on premises and made available for Fire Department inspection. When requested, the owner shall provide the Austin Fire Department with copies of the inspection forms.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 901.7

Fire protection systems shall be maintained according to original installation standards. Every impairment of a fire protection system is of concern to the Austin Fire Department. To ensure compliance with the requirements of Section 901.7 and to ensure that progress toward system restoration can be monitored, please take the following steps when notifying our office of a system impairment:

1. e-mail all System Impairments to FirePrevention@austintexas.gov
2. Include the following information on the notice

- Your company name or logo, address, email address and phone number(s)
- Date of the inspection
- Name, address, phone number(s) of occupancy inspected and a contact name for the person on site (manager, owner, etc.)
- System type(s) that are impaired and a short description of the impairment(s) as well as tag status. Please do not send an entire inspection report as they are generally too long.
- The name of the technician that performed the inspection

3. Notify AFD Prevention when a system is returned to service. Fire Code section 901.7.6 requires notification of our office when you repair a fire protection system to a state that all impairments no longer exist, even if your company was not responsible for issuing the original impairment notice.
~~Notification of an impaired system is required per Emergency Prevention memos dated 2-10-00 and 5-13-02.~~

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 903.3.1.2

Within new multiple building R-2 apartment or condominium projects, certain accessory buildings may be protected in accordance with this rule, when applicable. This rule shall only apply to projects when the sprinkler design and installation for the apartment or condominium buildings is permitted to be done in accordance with NFPA 13R. This rule shall further apply only to freestanding accessory or support structures such as clubhouses, leasing offices or other amenity buildings **not required** to have fire sprinkler protection by the fire or building codes, as amended. These buildings must be located entirely within the bounds of the project and the purpose of the buildings is to meet the needs of the residents within the same project.

Accessory buildings as described above may be protected with fire sprinklers utilizing a limited area wet pipe fire sprinkler installation as defined in this rule and in NFPA 13, ~~2010-2013~~ edition, section 4.2 when fire sprinklers **are not required** by the fire and building codes.

This limited area wet pipe installation allows the omission of fire sprinklers in areas of the accessory structure that would not require sprinkler protection if the accessory use were located within an apartment or condominium building, and the areas are not normally occupied by the management or residents and are not used for storage. Specifically this rule does not require fire sprinklers in combustible attics not used for storage or interstitial floor areas. All other design criteria for the partial wet pipe fire sprinkler installation would fully comply and satisfy the fire code, NFPA 13 and NFPA 24 and shall include the proper interface to fire alarm systems installed in the project.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 903.3.1.1-~~4~~

Sprinkler heads on required systems shall not be omitted from any electric rooms or closets except for those rooms which are under the exclusive control of the public electric utility company. Whenever possible, fire sprinkler piping and heads shall be located outside the vertical "dedicated" space as described in Section 110.26(F) of the National Electrical Code. If a situation arises in which placement of sprinkler piping or equipment in this space appears to be unavoidable, such conditions shall be clearly identified on sprinkler shop drawings so that AFD can work out appropriate coverage arrangements acceptable to the Electrical Code Inspector/Plan Reviewer as well as to the Fire Department.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 903.3.6 and 905.1

Threaded connections for 1-1/2 inch fire department outlets shall be National Standard Thread.

Threaded connection for 2-1/2 inch fire department outlets shall be National Standard Thread.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 906.1, the Exception and 906.2.1

In Group R, Division 2 occupancies a 1A:10B:C fire extinguisher inside each dwelling unit may be used in lieu of a 2A:10B:C fire extinguisher located outside within 75 feet of travel distance. Group R, Division 1 occupancies with attached garages are required a 2A:10B:C within the garage area if a 2A:10B:C fire extinguisher is not located within 75 feet travel distance. Dwelling units with attached garages located on a different grade level will be required to have an additional 1A:10B:C extinguisher in the dwelling unit if no 2A:10B:C fire extinguisher is located with 75 feet travel distance on that grade/elevation.

If fire extinguisher placement is based on this exception, extinguishers shall be inspected and replaced as required by NFPA 10. In cases where inspection and replacement/maintenance are not compliant, 2A:10B:C fire extinguishers shall be required to be installed at locations outside the dwelling units and within 75 feet travel distance of all points in the structure as specified in NFPA 10.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.1.1 and 907.2

In accordance with NFPA 72, 2010-2013 edition, Sections 24.4, 3.3.1~~2635~~, 3.3.136, A3.3.~~426136~~, C.2 and Annex D, when provided, voice communication systems for the noted occupancies shall provide the following Spanish statement:

ATTENCIO: HAY UNA EMERGENCIA EN EL AREA. POR FAVOR DE PROCEDOR A LA SALIDA MAS CERCANA O ESCALERA Y SALGA DEL EDIFICIO. POR FAVOR, NO USEN EL ELAVADOR. GRACIAS.

(Translation: Attention. There is an emergency in this area. Please proceed to the closest exit or stairwell and leave the building. Do not use the elevator.)

The Spanish statement shall be provided on a dedicated channel of the voice communication system. Both an approved English and Spanish statement is required when a voice communication system is provided in the following occupancies:

Group A occupancies With an Occupant Load of 1000 or more
High Rise Buildings Constructed Per IBC Section 403

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.2.1

Activation of the fire alarm system in a Group A occupancy with an occupant load of 300 or more shall shunt power to the stage and/or music producing equipment to ensure proper audibility.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections 907.2.8 and 907.2.9

When evaluating the audibility of alarms for occupant notification in R-1 and R-2 occupancies from the operation of a fire alarm system or from the operation of a fire sprinkler system, the Fire Department will require and witness a test of the alarm for sound level in the most remote area and in sleeping areas of the most remote dwelling unit(s) of each floor. The door(s) to the unit(s) and, if applicable, the door(s) to the sleeping area(s) shall be closed. The minimum sound level at these locations under the prescribed conditions shall comply with the requirements of section 18.4 of NFPA 72, 2010-2013 Edition.

The notification signal may be generated by common area devices or by devices within each dwelling unit so long as the minimum sound level is obtained as noted above.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.2.12.3

Public address systems shall automatically override the automatic voice/alarm system when the microphone's manual switch is operated.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.2.13.1

In high rise buildings, as defined in the Building Code (LDC Chapter 25-12, Article 1), at least one (1) approved smoke detector is required to be installed in rooms, areas, ducts, risers and equipment which may allow the spread of smoke vertically through the building [see Building Code Section 403].

If the size of the room or space is larger than the listed/approved spacing requirements of the particular type of detector chosen, then additional detectors shall be provided to meet the proper spacing requirements of the manufacturer, NFPA 72 and NFPA 90A.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.2.13.2

The Fire Department communication panel shall be equipped with not less than six (6) portable handsets and not less than one (1) for every three (3) floors for two (2) way communication when plug-in phone jacks are utilized. If plug-in phone jacks are not utilized, each station shall be provided with a permanent handset.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.2.13.2

In high rise buildings, the phone jacks to the Fire Department communication system (fire fighter's phones) provided at the entry of each enclosed stairway and required by the Building Code (LDC Chapter 25-12, Article 1) Section 403.7 and 907.2.13.2, shall be located in the vestibule immediately outside each stair enclosure. If phone jacks to the Fire Department communication system (firefighter's phones) are provided at each floor level landing within each enclosed stairway, then phone jacks shall not be required in the vestibule (area of refuge) outside the stair enclosure immediately adjacent to the floor level landing.

If manual pull stations are used for housing the phone jack to the Fire Department communication system, then every installed manual pull station shall be provided with a phone jack.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 907.7.5

Fire alarm systems shall be supervised by an approved proprietary or remote station service, or by on-site personnel at a constantly attended location when the system is required to be installed in the following occupancies:

1. High piled storage occupancies, when smoke or heat detection systems are required.
2. Day care occupancies supervising 100 or more children.
3. Group I occupancies.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 909

All tempered glass panels required for smoke removal shall be identified by a City of Austin Fire Department approved window sticker located in the lower right-hand interior corner of the panel. The stickers shall be placed with the center of the sticker three (3) inches from the bottom and right edges of the panel.

A Fire Department approved window sticker shall be two (2) inches in diameter circle T. The T and border shall be red in color with a white reflective background. A sample of the stickers to be installed shall be submitted to the City of Austin Fire Department for approval prior to installation (See 901S-4 in the City of Austin Standards Manual).

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7) Reference Section 907.2.14 and 909

Atria shall be provided with mechanical smoke exhaust systems designed in accordance with the requirements of International Building Code (LDC Chapter 25-12, Article 1) Sections 404 and 909. Atrium smoke control exhaust and supply systems shall be activated by any required smoke detectors installed in the atrium and in areas open to the atrium. In addition to activation by these smoke detectors, atrium smoke exhaust systems may also be activated by the zoned sprinkler system in the atrium, and shall also be activated by the sprinkler system in areas open to the atrium.

The atrium supply and exhaust equipment all have a listed three (3) way manual off, on, automatic switch(es) for Fire Department use located at the fire alarm panel.

4.5.0 SPECIAL OCCUPANCY USES AND PROCESSES

(Article 11 through 44 of the Fire Code (LDC Chapter 25-12, Article 7))

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~4410~~3310.1

Access roadways provided for service to buildings shall be completed to within required distances prior to any construction involving combustible wood framing, formwork or shoring timbers, provided however, that formwork for single story structures may proceed concurrent to road construction.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~4410~~3310.1

Combustible building materials stored on a building site where construction has commenced shall be afforded the same roadway access and other fire protection measures as required for buildings under construction.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~4503~~2403.5

In order to appropriately address the hazards associated with the mixing of automotive related paint finishes in areas outside of the approved mixing, use and dispensing rooms, and alternative paint kitchen facility may be used provided it satisfies the following:

1.The paint kitchen shall provide 5 foot, 9 inch walls of noncombustible construction on three sides.

- 2.All electrical fixtures and appliances inside and within 3 feet of the enclosure shall meet the National Electrical Code requirements of Class I, Division 2 locations.
- 3.Mechanical ventilation shall be provided at the work surface and will provide a volume sufficient to maintain the paint kitchen atmosphere at a level equal to or less than 25 percent of the lower explosive limit of the most volatile material being used.
- 4.Quantities of flammable or combustible liquids allowed at the paint kitchen shall not exceed the values set forth in the International Fire Code, Section ~~3405~~5705.3.5.
- 5.All interior surfaces of the paint kitchen shall be cleanable.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~2704~~5001.5

The Combined Report Form resulting from the cooperative agreement between the Austin Fire Department and the Local Emergency Planning Committee will be accepted as an alternative inventory submittal in meeting the permit application submittal under this section for both the long and short form Hazardous Materials Permit applications.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 105.6.20.7.3 and ~~2704~~5001.5

A transportation vehicle, such as a bulk tanker, is no longer considered a transportation vehicle when it is used to store hazardous materials and remains in one (1) location (or construction site) for over 30 days.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~2703~~5003.3

Recording/Reporting Procedures

Section ~~2703~~5003.3 For reporting requirements, see Chapter 4.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~2704~~5004.2

SECONDARY CONTAINMENT

Secondary containment systems shall be compatible with the environment in which they are installed for the projected life of the systems and must be compatible with the contents of the primary container(s) for the amount of time they would reasonably be expected to contain the material between the time a leak would be detected and when clean-up operations would occur.

Systems for secondary containment for tanks, other than for double-walled tanks, will require engineered designs. The design submittals shall be stamped by one (1) or more professional engineers registered by the State of Texas, attesting to the structural soundness of the systems, the compatibility of the construction materials with the environment and the stored materials, the corrosion protection afforded by the design and the soundness of any hydrogeologic design elements. These systems shall be installed according to the manufacturer's and/or engineer's specifications.

Where one (1) primary container is installed in a storage facility, the secondary containment must be capable of containing 110 percent of the stored volume. Where multiple primary containers are installed in a facility, the secondary containment must be sized to contain 150 percent of the volume of the largest container placed in it or 50 percent of the aggregate volume of all primary containers, whichever is greater. If the storage facility is open to rainfall, the secondary containment must also accommodate the volume of water created by a ten (10) inch rainfall in a 24-hour period. In making calculations to size the secondary containment, the portion of the material that would remain in the primary container, in the event of a leak, may be included in the 110 percent. In calculating the size of

the secondary containment, the portion of the material that would remain in the largest primary container, in the event it leaked, may be included in the secondary containment volume. However, the volume of the secondary containment displaced by the other tanks and any tank supports shall be taken into consideration in the calculations.

Example 1: Two (2) 10,000 gallon tanks are stored above ground in an approved coated concrete diked area. The storage facility is covered so that rainfall cannot accumulate within the diked area.

How much volume must the secondary containment, diked area, hold?

From the volume requirements for secondary containment,

Case 1: 150 percent of the volume of the largest primary container

Required Volume = 10,000 x (1.50) = 15,000 gallons

Case 2: 50 percent of the aggregate internal volume of all primary containers

Required Volume = 20,000 x (.50) = 10,000 gallons

Use Case 1, since it is more.

Therefore, the volume of the diked area must be able to contain at least 15,000 gallons or 2,005 cubic feet after the saddles and tanks are in place.

The following City of Austin Standards deal with secondary containment: 901S-7, 901S-8, 901-9, 901-10, and 901-11. (See the City of Austin Standards Manual to view these illustrations.)

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section [27045004.2](#)

DRAINAGE AND SUMPAGE REMOVAL

Drainage of precipitation, sumpage and fire suppression liquids from within a storage facility containing hazardous materials which are liquids or solids at STP shall be controlled in a manner, in accordance with the requirements of the Fire Code, so as to prevent hazardous materials from being discharged to the environment. No drainage or sumpage removal system will be approved unless the flow of the liquid can be controlled.

Facilities should be designed to prevent direct rainfall from entering hazardous materials storage areas. Any precipitation that does fall into such areas should be considered as being contaminated until proven otherwise and therefore must be collected and held for treatment or proper disposal. Sumpage, such as condensation water in tanks and water in secondary containment areas, from run-off or percolation as well as liquids such as water or foams from sprinklers and fire fighting activities, must be collected and handled accordingly.

Drainage of liquids other than sumpage from storage area can be achieved by containment in the storage area itself. A trench or sump system in the floor of the storage area which is constructed to meet NFPA 400 Section 6.2.1.9.2 and meets the required holding capacity is acceptable. A drainage system that conducts the material to a remote storage tank or diked area which is protected from damage and is accessible during a fire emergency is designed to minimize the potential for fire spread is also acceptable. A system equipped with an approved interceptor/separator capable of restricting the flow of the hazardous material may be allowed to discharge into a storm or sanitary sewer subject to approval by the Planning and Development Review Department. The required holding capacity design parameters mentioned above can be found in Section [27045004.2](#) of the Fire Code.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section [27045004.2](#)

The following parameters shall be evaluated when calculating secondary containment requirements with regards to automatic sprinkler systems:

1. The design area system demand;
2. Except in the case where hazardous materials are stored in a high-rack or high-piled configuration, hose stream demand need not to be included in the calculation of secondary containment capacities.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~32055505~~.4

A liquefied natural gas installation design compliant with NFPA 52, Vehicular Gaseous Fuel Systems Code, 2010 Edition, may not be acceptable to the Austin Fire Department. Engineering design considerations should include:

1. Vapor dispersion, jet fire and overpressure calculations, based on the release of cryogenic fluid from the container, to demonstrate that an accident at the site will pose little or no off-site consequences.
2. The use of insulated concrete for the foundation and containment walls.
3. The use of valves which close upon loss of pneumatic or electric energy.
4. A review of the design using fault tree analysis and probabilistic risk assessment.

| In addition to the requirements in Chapter ~~3255~~, the Fire Department will also apply the requirements of NFPA 55, *Compressed Gases and Cryogenic Fluids Code, 2010 Edition* for liquid oxygen and liquefied hydrogen system installations. Inert cryogenic installations shall be in accordance with Compressed Gas Association Standard P18-9, Bulk Gas Installations at Consumer Sites.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~33015601~~.2 and ~~33015601~~.2.7

Blasting Permits

To obtain blasting permits contact the Public Works Department. Permits will not be granted unless approval is forthcoming from utilities (see Routing Slip), all fees paid, and all pertinent information is included on the permit application.

Permits shall be secured at least 24 hours in advance of blasting operations. No blasting shall take place before an inspector is on site.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Sections ~~33015601~~.2.4

Prior to the Fire Department's issuance of a permit for fireworks or pyrotechnic displays, pyrotechnic operators shall furnish a corporate surety bond or a certificate of public liability insurance in an amount as outlined below. The City of Austin shall be included as an additional insured in such public liability insurance policies.

When the permit request includes the use of aerial devices or Class B fireworks, the minimum insurance/bond amounts shall be \$1,000,000 for personal injury and \$500,000 for property protection. If the permit is limited to non-aerial Class C fireworks, the minimum insurance/bond amounts shall \$500,000 for personal injury and \$300,000 for property protection.

CITY OF AUSTIN FIRE PROTECTION RULE

| International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~33015601~~.9

Licenses

All persons engaging in the use of explosives must meet specific licensing requirements found in Section ~~33015601~~.9 of the Fire Code. The City of Austin will require five (5) working days to approve/deny all license requests. Blasting licenses are valid for one (1) year and may be renewed each year thereafter upon presentation of a new license application, presentation of credible documentary proof that the license holder has been actively engaged in blasting operations the preceding year, payment of the license fee, and successful verification of background by the City of Austin Police Department. If the blaster is unable to provide satisfactory documentary proof of blasting activities during the previous year, the applicant may retest for the class of blasting license requested.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section Article ~~33075607~~

Use and Handling of Explosives

Pre-blast inspections will be performed on all permitted work prior to initiation of any blasting activity. There will be pre-blast notification made to owners or managers of all affected premises. The range of this notification shall be as described in the permit.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section ~~38046104.2~~

Siting of liquefied petroleum gas (LPG) storage in excess of 2,000-gallon capacity shall be reviewed in accordance with the criteria for performance-based design as detailed in IFC section ~~27015001.3~~. As a minimum, the evaluation of potential sites for large (>1,000 gallon water capacity) propane tanks shall address the following subsections of ~~27015001.3~~.

~~27015001.3.3~~ Performance requirements

~~27015001.3.3.2~~ Reliability of equipment and operations.

~~27015001.3.3.3~~ Prevention of unintentional reaction or release.

~~27015001.3.3.5~~ Ignition hazards.

~~27015001.3.3.6~~ Protection of hazardous materials.

~~27015001.3.3.7~~ Exposure hazards.

~~27015001.3.3.11~~ Process hazard analyses.

~~27015001.3.3.13~~ Operating and emergency procedures.

~~27015001.3.3.15~~ Emergency response plan.

~~27015001.3.3.17~~ Consequence analysis.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Chapter ~~4580~~

For Information on discharges or emissions regulated by the Texas Commission on Environmental Quality (TCEQ), contact:

Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Texas Commission on Environmental Quality Regulations
30 TAC (Texas Administrative Code)

4.6.0 UNIFORM FIRE CODE APPENDICES

(Reserved) (Appendix A through Appendix G of the Fire Code (LDC Chapter 25-12, Article 7))

There are no rules pertaining to these Appendices at this time.

4.7.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 13 AND LOCAL AMENDMENTS

The following rules pertain to Standard for the Installation of Sprinklers NFPA 13.

????CITY OF AUSTIN FIRE PROTECTION RULE????

Austin Fire Code (LDC Chapter 25-12, Article 7), NFPA 13, Also Reference IBC Section 903.3.1.1, 903.3.1.2, and 903.3.1.3

When heat tracing of wet pipe is utilized to prevent freezing, such heat tracing systems shall be a pre-engineered UL listed system or heat tracing shall be designed by a registered professional engineer, ~~and~~ The design, whether engineered or pre-engineered, shall be approved by the Austin Fire Department prior to installation.

The Engineered design submittals shall be sealed by the Engineer, and shall include the following:

- A full set of calculations outlining all temperature and heat loss assumptions.
- A plan showing the extent and location of the heat tracing equipment.
- Data sheets for the heat tracing equipment
- One line electrical drawing showing the interconnection of the equipment.

Pre-engineered heat tracing system submittals shall include the following:

- Data sheets for the heat tracing equipment
- A complete copy of manufacturer's installation instructions.
- A plan showing the extent and location of the heat tracing equipment.
- A complete bill of materials.

The heat traced pipe temperature shall be monitored for low temperature by an approved fire alarm panel and shall provide a supervisory signal at an approved constantly attended location when the pipe temperature drops below 40° F.

The heat tracing tape shall be wrapped with insulation. Insulation of pipe by itself shall be reviewed on a case-by-case basis.

CITY OF AUSTIN FIRE PROTECTION RULE

Austin Fire Code (LDC Chapter 25-12, Article 7), NFPA 13, Reference Section 4.2 and 8.1.1

All portions of buildings required by the Building Code (LDC Chapter 25-12, Article 1) to be sprinkled shall be fully protected by an approved automatic sprinkler system. The sprinkler system may be augmented but not replaced by other fixed extinguishing systems, except by an approved alternate method of compliance.

If a sprinkler system is augmented by a CO₂ or Halon replacement (clean agent) gas system, the temperature rating of sprinkler heads in the subject area/room may be increased to the next higher rating as described in NFPA 13 Tables 8.3.2.5(a) and 8.3.2.5(b).

The use of local application sprinkler systems shall be approved by the Fire Marshal. Local application sprinkler systems shall be limited to areas of 1000 square feet or less and may be used for the protection of hazardous processes or areas.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference NFPA 13, Chapters 7 and 8

GENERAL SYSTEM REQUIREMENTS

A water flow test of the sprinkler water supply shall be submitted to the Fire Prevention Division for evaluation of the acceptability of the water supply for the given application.

Sprinkler system designs shall be hydraulically calculated. The calculations shall demonstrate a minimum 10 PSI buffer, and shall include outside hose stream demand in accordance with NFPA Standard No. 13, ~~2010~~ 2013 edition.

Backflow prevention shall be required pursuant to the Uniform Plumbing Code.

A Fire Department Connection is not required for stand-alone local application systems using less than 20 heads.

The design and installation of a local application sprinkler system shall meet these requirements and the requirements of NFPA Standard No. 13, ~~2010~~ 2013 edition.

Local application sprinklers shall not be used in lieu of automatic fire-extinguishing systems required in Chapter 9 of the International Building Code and Chapter 9 of the International Fire Code.

4.8.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 14 AND LOCAL AMENDMENTS

The following rules pertain to the Standard for the Installation of Standpipe Systems NFPA 14.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Section 905.3, NFPA 14, Reference Section 9.1 and 7.2.1

The following shall be used in the design of Class I standpipe systems requiring the use of a Fire Department pump to operate at the required flows:

- A. For buildings other than high rise structures, the system pressure demand at the Fire Department Connection (FDC) inlet shall not exceed 150 psi (10.3 bar) regardless of the required flow. For high rise buildings the system pressure demand at the FDC inlet shall not exceed 350 psi (24 bar) regardless of the required flow.
- B. Verification of the pressure demand at the required flow (as noted in A above), through the use of hydraulic calculation methods, shall be submitted to the City of Austin Fire Department for review and approval.
- C. If the required flow for standpipe systems exceeds the flow of water available at 20 psi (1.4 bar) residual pressure from the water supply system, an auxiliary water supply will be required.

4.9.0 NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS 20

The following rules pertain to the Standard for the Installation of Fire Pumps NFPA 20.

CITY OF AUSTIN FIRE PROTECTION RULE

International Fire Code (LDC Chapter 25-12, Article 7), Reference Chapter 47, NFPA 20, Reference Section 4.14.4

All fire pump systems connected to the public utility shall be provided with a by-pass line.

CITY OF AUSTIN FIRE PROTECTION RULE

Uniform Fire Code (LDC Chapter 25-12, Article 7), Reference Chapter 47, NFPA 20, Reference Section 4.20.1.

All fire pump systems shall be provided with a test header (or hose valve) which is piped to the exterior of the structure. The site in the vicinity of the test header shall be designed to account for the drainage of water of not less than 150 percent of the maximum pump capacity rating.

APPENDIX A: FIRE PROTECTION RULES REQUEST

City of Austin Fire Protection Rules Request

_____ New Rule _____ Revision to Existing Rule

Code References:

_____ Uniform Fire Code
_____ International Fire Code
_____ National Fire Protection Association Standard No. _____
_____ Other

References _____

Section _____

Purpose of New Rules or Revision:

Recommendations:

Submitted By:

Name _____ Title _____
Firm _____
Address _____
Telephone _____ Date _____
Facsimile _____

Reviewed By: _____

Name _____ Title _____
Department _____ Date _____
Recommended Action _____

APPENDIX B
INSPECTION FORMS



AUSTIN FIRE DEPARTMENT CERTIFICATION TESTING REPORT FIRM FIRE ALARM SYSTEMS



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY _____ SEMIANNUAL _____ ANNUAL _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
QUARTERLY - - 25 percent random selection of all devices for proper operation. ANNUAL certification - - all devices must have been tested within the previous year.			
System operates on back-up power. Back-up power equipment properly maintained.			
SEMIANNUAL: Sprinkler water flow switches and supervisory switches function as designed.			
Panel transmits signals to proper equipment (for example -- remote annunciators, dialers, central station signaling).			
Tested devices annunciate at fire control panel.			
QUARTERLY -- 25 percent random selection of voice speakers operate. ANNUAL certification -- all devices must have been tested within the previous year .			
System audibility not impaired (walls, partitions, etc.)			
Record of location of devices tested is posted at the fire control panel.			
Key(s) to panel is available.			
Fire control panel operates in accordance with manufacturer's instructions.			
QUARTERLY -- 25 percent random selection of devices checked for electrical supervision.			
Trouble signal is present at fire control panel with normal power off.			

Alarm panel manufacturer name, make and model

FUNCTION	SAT	UNSAT	NUMBER TESTED	NUMBER IN BUILDING
Voice alarm speakers _____ / horns _____				
Visual alarm devices.				

Trouble indicators.				
Heat detector(s).				
Automatic fire sprinkler supervisory switches. Location - Flow? _____ Tamper? _____				
Smoke detector(s) - Brand(s) _____ Model(s) _____ 2/4-wire? _____ If 2-wire, compatibility verified? _____				
Manual pull stations - Brand/Type _____ Key required? _____ Tool required? _____ Key(s)/Tool(s) present? _____				
Central station (remote) signaling devices.				
Annunciators - Location(s) _____				
Phone jacks - Stairwells _____ Elevators _____				
Automatic door release/closure.				
Automatic door lock release.				
Special egress devices - AFD Approved? _____ Door hardware? _____ Red Buttons? _____				
Alarm devices handout delivered to occupancy.				
Elevator recall (alt. floor) operates as required				
Approved fire alarm plans are on-site.				
Fire alarm installation operates in accordance with approved plans.				

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This FIRE ALARM system has been tested and/or inspected in accordance with applicable nationally recognized standards, including those published by the NFPA, and consistent with the manufacturer's recommendations. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



AUSTIN FIRE DEPARTMENT CERTIFICATION TESTING REPORT FORM STAIRWAY DOOR LOCKS



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
Locks release on fire alarm actuation.			
Locks release on power failure.			
Required door keys available at control center.			
Roof door(s) unlock on fire alarm.			
Number of Stories in building:			
Type of locking devices (magnetic plate or electric bolt/strike)			
Total number of locking devices:			
Total number of devices tested:			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This STAIRWAY DOOR LOCKS system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards and with the manufacturer's recommendations. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



AUSTIN FIRE DEPARTMENT CERTIFICATION TESTING REPORT FORM FIRE PUMP - DIESEL ENGINE



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY: _____ ANNUAL: _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
All supply valves are open.			
Pump and driver run smoothly without excessive vibration.			
Check alignment of the pump and driver.			
Flow test conducted at: q Shut-off q 100% of rated capacity q 150% of rated capacity Record results on pump test summary sheet.			
Relief valve operable (where applicable).			
Pump engine starts automatically by drop in pressure or water flow detection. Record starting pressure setting on pump test summary sheet. See NFPA 20 sec. A.14.2.76.			
Pump running alarm functions.			
Cooling water solenoid operable, cooling system functions correctly.			
Low lubricating oil pressure alarm functions.			
Engine starts on power failure.			
Engine start by remote control (where provided), and/or manual start.			
High engine temperature alarm functions.			
Engine RPM within manufacturer's limits. Record engine speed in "COMMENTS".			
Engine overspeed shutdown functions.			
Pump fail to start alarm functions.			
Battery failure indicators function.			
Mercury pressure switch set properly (verify pump starting sequence if multiple pumps provided).			

FUNCTION	SAT	UNSAT	COMMENTS
----------	-----	-------	----------

Verify proper operation of pressure maintenance pump. Record start pressure on pump test summary sheet. See NFPA 20 sec. A.14.2.76			
Maintenance log kept up to date and available.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This FIRE PUMP - DIESEL ENGINE system has been tested and/or inspected in accordance with applicable nationally recognized standards including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
FIRE PUMP - ELECTRIC MOTOR**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY: _____ ANNUAL: _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
All supply valves are open.			
Pump and driver run smoothly without excessive vibration.			
Check alignment of the pump and driver.			
Flow test conducted at: q Shut-off q 100% of rated capacity q 150% of rated capacity Record results on pump test summary sheet.			
Relief valve operable (where applicable).			
Pump motor starts automatically by drop in pressure or water flow detection. Record starting pressure setting on pump test summary sheet. See NFPA 20 sec. A.14.2.76			
Pump running alarm functions.			
Minimum run timer properly set (where provided).			
Motor start by remote control (where provided), and/or manual start.			
Starting amperage (enter amperage in "COMMENTS").			
Power available indicator functions.			
Phase reversal indicator functions.			
Power failure alarm functions.			
Electric motor starts on backup power (if applicable).			
Mercury pressure switch set properly (verify pump starting sequence if multiple pumps provided).			
Verify proper operation of pressure maintenance pump. Record start pressure on pump test summary sheet. See NFPA 20 sec. A.14.2.76.			
Maintenance log kept up to date and available.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This FIRE PUMP - ELECTRIC MOTOR system has been tested and/or inspected in accordance with applicable nationally recognized standards including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
CLASS I STANDPIPE



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL: _____ FIVE YEAR: _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
FDC clappers and union fittings move freely and are provided with caps/plugs.			
FDC utilizes 2.5" NS hose threads.			
FDC is accessible and free of debris.			
Outlet threads shall be 2.5" NS hose threads.			
Hose and nozzles shall be in good condition. If provided, hose shall be tested annually in accordance with NFPA Standard No. 1962.			
Supervision provided for all control valves and sectional valves.			
Proper signage provided for valves, FDC, and ancillary equipment.			
Piping, hangers, and equipment free of corrosive and mechanical damage.			
Hydrostatic test (see text).			
Overall system is complete and fully operational.			
5 Year Test: If it is a dry system, hydrostatic test for two hours @ 200 psi or at 50 psi in excess of the normal pressure when greater than 150 psi.			
System provided 500 gpm at roof through riser 1, with an additional 250 gpm for each additional riser. (5 year frequency)			
Minimum residual pressure equal to the original design pressure at the top most point. Record flows and pressures in "COMMENTS". (5 year frequency)			
Verify proper settings and function of all PRV's under static and flow conditions. Record valve settings in "COMMENTS". (5year frequency)			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This CLASS I STANDPIPE system has been tested and/or inspected in accordance with applicable nationally recognized standards including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
CLASS II STANDPIPE**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL: _____ FIVE YEAR: _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION/ANNUAL TEST	SAT	UNSAT	COMMENTS
FDC clappers and union fittings move freely and are provided with caps/plugs.			
FDC (if provided) utilizes 2.5" NS hose threads, is accessible and free of debris.			
Outlets have 1.5" iron pipe threads.			
Hose storage mechanism and hose shall be in good condition and operational. Hose shall be tested annually in accordance with NFPA Standard No. 1962.			
Hose nozzle is in good condition, unobstructed, and functional.			
Supervision provided for all control valves and sectional valves.			
Proper signage provided for valves, FDC, and ancillary equipment.			
Piping, hangers, and equipment free of corrosion and mechanical damage.			
Flow pressures > 150 psi require an approved pressure reducing device to maintain pressures < 150 psi.			
Hydrostatic test if necessary (see text).			
Overall system is complete and fully operational.			
System provides 100 gpm at the highest outlet at a minimum of 65 psi residual pressure at the top floor. Record flow and pressure in "COMMENTS". (5year frequency)			
Verify proper settings and function of all PRV's under static and flow conditions. Record valve settings in "COMMENTS". (5 year frequency)			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This CLASS II STANDPIPE system has been tested and/or inspected in accordance with applicable nationally recognized standards including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
CLASS III STANDPIPE**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL: _____ FIVE YEAR: _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION/ANNUAL TEST	SAT	UNSAT	COMMENTS
For Class III standpipes conduct a test using applicable elements of Class I and Class II tests.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This CLASS III STANDPIPE system has been tested and/or inspected in accordance with applicable nationally recognized standards including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
 CERTIFICATION TESTING REPORT FORM
 AUTOMATIC SPRINKLER SYSTEMS
 WET AND DRY**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
ALL SPRINKLER SYSTEMS			
All sprinkler control valves and sectional control valves are open, and secured by lock and chain or electrically supervised.			
FDC fully operational and unobstructed, accessible with caps or plugs in place.			
All piping, hangers, and other supports are secure, are free of corrosion or mechanical damage and protected from freeze damage.			
Visual inspection of sprinkler heads for obstructions, damage, corrosion, dust build-up or paint (replace if necessary). If over 50 years old, replace or have tested.			
Main drain test. Record static and flowing pressures in "COMMENTS".			
If applicable, fire alarm tested by opening inspector's test connection activates water flow alarm at the fire alarm panel within 90 seconds.			
If applicable, water flow alarms and trouble signals are properly identified at the control panel and/or remote signaling station.			
Water motor gong functions properly within 5 minutes of opening the inspector's test.			
Local electric alarms function properly within 5 minutes of opening the inspector's test.			
Spare sprinkler heads of proper size, type, and temperature rating are available. Sprinkler wrench available.			

FUNCTION	SAT	UNSAT	COMMENTS
ALL SPRINKLER SYSTEMS			
Proper signage permanently affixed for valves and equipment. (Permanently attached placard indicating location and design basis on all hydraulically designed systems).			
System is complete and fully operational.			
1.5" hose connections and hose are free from damage or deterioration. Hose threads are 1.5" iron pipe thread.			
DRY PIPE SYSTEM ONLY			
Dry pipe valve enclosure provided with adequate heat to maintain at least 40 ^o F.			
System is dry and air pressure is set according to manufacturer's instructions (Record trip time in "COMMENTS")			
Every 3 years full flow trip test (water out of the inspector's test). If over 750 gal. capacity, water from inspector's test in 60 seconds or less (record trip time in "COMMENTS").			
Dry pipe system is drained and properly reset (record air pressure and time to restore air pressure in "COMMENTS").			
DELUGE/PREACTION SPRINKLER SYSTEMS ONLY			
Fire detection devices tested in accordance with manufacturer's instructions.			
Supervisory air loss alarm functions.			
System trips by detection system activation.			
Supply of spare fusible elements for heat responsive devices on premises.			
System drained and returned to normal setting.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This AUTOMATIC SPRINKLER - WET OR DRY PIPE system has been tested and/or inspected in accordance with applicable nationally recognized standards including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
SMOKE MANAGEMENT
SHAFT PRESSURIZATION**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ BLDG. STAFF _____ SPECIAL INSPECTOR _____
TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY _____ ANNUAL _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
System operates upon fire alarm activation.			
System operates properly on emergency power.			
Firefighter's smoke control panel operates properly.			
Record vestibule pressure differential readings.			
Doors close properly and can be opened by a force of not greater than 30 lbf.			
Record stairwell pressure readings across doors on the top and ground floors, and every five floors in between, with 3 doors open.			
Excess pressure relief device(s) on compensated pressurization systems operate properly.			
Maintenance log is present and up to date.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This SHAFT PRESSURIZATION system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
EMERGENCY POWER SUPPLY SYSTEMS**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

EPSS DATA

GENERATOR MANUFACTURER: _____ PRIME MOVER MANUFACTURER: _____

KVA _____ @ _____ Hz RATED RPM _____ @ 100%
(Or kW)

TRANSFER SWITCHES _____ ENERGY SOURCE _____

REMOTE ANNUNCIATOR LOCATION(s): _____

FUNCTION	SAT	UNSAT	COMMENTS
One hour separation of EPSS is provided.			
Battery powered emergency lighting is provided.			
EPSS foundation is a minimum of 6" in height.			
EPSS enclosure is maintained at a minimum of 70 degrees F.			
Exhaust outlet prevents exhaust vapors from entering HVAC supply inlets and is gas tight.			
Exhaust piping is connected to prime mover using flex connector and is independently supported.			
Batteries are provided with an elevated, adequate storage rack.			
Control panel, remote annunciation, and shut down features functional.			
Generator starts on power failure.			
Manual start at generator is functional.			
Remote manual stop is operational.			
Transfer switches activate upon initiation of automatic test switch.			
2 hour fuel supply.			
Emergency lighting function (if applicable).			

This EMERGENCY POWER SUPPLY system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards, including those published by the NFPA, and consistent with the manufacturer's recommendations. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



AUSTIN FIRE DEPARTMENT CERTIFICATION TESTING REPORT FORM ELEVATORS



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY _____ SEMI-ANNUAL _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
TDLR Annual Inspection is Current			
Fireman's control switch inside each car functions in phase 2 operation, and elevators operate properly (normal power).			
Fireman's control switch inside each car functions in phase 2 operation, and elevators operate properly (emergency power).			
Cars stop at selected floor with doors closed.			
When door open button is depressed and quickly released, doors close.			
When door open button is depressed until door is fully open, door remains open.			
Cars go up and down from any floor by operating controls inside car.			
Elevators return to homing floor in phase 1 operation (normal power) - by lobby detector.			
Elevators return to homing floor in phase 1 operation (normal power) - manually.			
Elevators return to homing floor in phase 1 operation (emergency power) - by lobby detector.			
Elevators return to homing floor in phase 1 operation (emergency power) - manually.			
Elevators return to homing floor, and doors open, on loss of normal power.			
Elevators have a bypass and call down switch in the fire control center or main floor lobby.			
Elevator emergency phone rings down to a constantly attended location.			
Firefighter phone jacks in elevators are connected to the fire control center, if applicable.			

All elevators home on alternate floor if smoke detector activated on homing floor?
 Yes No N/A Floor Number _____

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This ELEVATOR system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards, including those published by NFPA and ANSI, and consistent with manufacturer's recommendations. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
SEQUENCE – NORMAL POWER**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL _____ (year)

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
Test procedure established and building occupants notified.			
Fire alarm system activated from randomly selected device.			
Alarm sounds on all designated floors.			
Elevators return to the lobby and remain with their doors open (or homing floor) upon alarm actuation.			
Fire dampers operate (if applicable) upon alarm actuation.			
Stairs and elevator shafts pressurize (if applicable) upon alarm actuation.			
Stairway door locks unlock (but do not unlatch) including control center and entrance doors upon alarm actuation.			
Fire pump starts automatically upon alarm activation (if applicable).			
Smoke removal system fans and dampers operate upon alarm activation.			
Communications systems function as designed upon alarm actuation.			
HVAC shuts down (if applicable) upon alarm actuation.			
The following tests are performed on standby power.			
Emergency generator operates (if applicable)			
Fire alarm system continues to operate "all call" full load test on voice alarm system.			
Designated elevators operate.			
Verify fire pump operation (if applicable)			
All auxiliary equipment operates as designed.			
Transfer switches work on generator.			
Generator shuts down automatically after normal power restored.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This SEQUENCE - NORMAL POWER TEST for reliability of installed systems has been completed in accordance with applicable nationally recognized standards, including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
SMOKE MANAGEMENT – TEMPERED GLASS**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ BLDG. STAFF: _____ SPECIAL INSPECTOR: _____
TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: QUARTERLY _____ ANNUAL _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
Tempered glass windows marked with a "T" decal in the lower right corner.			
Tempered windows are accessible and not blocked with walls, cabinets, etc.			
Building has operable windows.			
Smoke management system operates on fire alarm or sprinkler activation, as applicable.			
Smoke management system operates on emergency power.			
Fire dampers operate with smoke removal fan(s) (if applicable).			
Firefighter's smoke control panel operates correctly on primary and emergency power.			
Tempered windows located at approximately 50 ft. intervals.			
Record exhaust flow (cfm) on fire floor (for high rise buildings).			
Record pressure differential on pressurized floors.			
Maintenance log is present and up to date.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This SMOKE MANAGEMENT/TEMPERED GLASS system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards, including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
FOAM SYSTEM**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL _____ 5 YEAR _____

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	YES	NO	COMMENTS
<i>ANNUALLY</i>			
1. Have all the proportioning devices, their accessory equipment and foam makers been inspected for physical condition?			
2. Has the aboveground piping been inspected for proper condition and drainage pitch?			
3. Have all strainers been inspected and cleaned as necessary?			
4. Have control valves, including all automatic and manual actuating devices been tested for proper operation?			
5. Does quantity of concentrate in storage tanks or containers meet design requirements?			
6. Has the foam concentrate and its storage tanks or storage containers been inspected for excessive sludge or deterioration? Age of concentrate? _____.			
7. Has a sample of the concentrate been submitted to the manufacturer or to a qualified test laboratory for quality condition testing?			
<i>5 YEAR</i>			
8. Has aboveground piping been inspected for corrosion and mechanical damage?			
9. Has underground piping been spot-checked for deterioration?			
10. Was an actual flow test conducted using foam concentrate?			
11. Was a complete pressure test performed for all normally dry piping?			
<i>GENERAL</i>			
12. Are operating and maintenance instructions posted at control equipment?			
13. Are there trained personnel on site to operate the equipment?			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This FOAM system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards, including those published by the NFPA, and consistent with manufacturer's recommendations. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
CLEAN AGENT/HALON/CO₂**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: ANNUAL

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
Local alarms (audible and visual).			
Alarms to central station, remote station, or proprietary signaling service; or local annunciation.			
Damper(s) close upon alarm (if applicable).			
HVAC power shut down upon alarm (if applicable).			
Computer shutdown (without adversely affecting operations) upon release of agent (if applicable).			
Pressure switches.			
Electric manual releases operate properly.			
Mechanical emergency manual releases function properly.			
Door closure devices operate upon alarm condition (if applicable).			
Aborts (if provided) function without affecting time delay countdown sequence.			
Time delays function (normally time delays shall be less than 20 seconds).			
Supervision of all circuits operates properly.			
Detector sensitivity checked as required by applicable standards.			
Pneumatic tubing (by manometer if not supervised).			

FUNCTION	SAT	UNSAT	COMMENTS
----------	-----	-------	----------

Container weights: 1. Refillable container: (a) Refill if net weight loss is greater than 5% (b) Refill if pressure loss is greater than 10% 2. Non-refillable container w/ no pressure gauge, replace if net weight loss is greater than 5%.			
Location and adequacy of manual releases.			
Extinguishing Agent actuated pressure switches (manual if provided).			
Fire procedure for hazard.			
Placarding/labeling of equipment.			
Battery hydrometer reading. Record reading in comments.			
Confirm restoration to normal at completion of testing.			
Owner maintains a complete written record of all testing, maintenance, and service.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This CLEAN AGENT, HALON OR CARBON DIOXIDE system has been tested and/or inspected for reliability in accordance with applicable nationally recognized standards, including those published by the NFPA, consistent with manufacturer's recommendations. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
RANGEHOOD**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: SEMI-ANNUAL

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
Pressure gauge in operable range.			
All lead and wire seals intact.			
No visible signs of activation or tamper.			
All piping and conduit is restrained with proper hangers and brackets.			
Check position of all nozzles.			
Check action on self-closing caps.			
Replace all protective covers on nozzles.			
Fusible links changed at least annually.			
Check cable nut travel tolerances.			
Test system operation from terminal link for proper operation.			
Test system operation with manual remote: Proper manual operation.			
Interlocked systems shut down upon discharge actuation.			
Proper operation of micro-switch.			
System is visible and free from obstruction.			
Inspection and service tag on system cylinder.			
Owner informed if all surfaces not protected.			
Appropriate handheld extinguishers are located and serviced properly.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This COMMERCIAL KITCHEN HOOD system has been tested and/or inspected for reliability consistent with the manufacturer's recommendations and in accordance with applicable nationally recognized standards, including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____



**AUSTIN FIRE DEPARTMENT
CERTIFICATION TESTING REPORT FORM
DRY CHEMICAL SYSTEM**



ADDRESS: _____

OCCUPIED AS: _____

INSPECTED BY: _____ TITLE: _____

DATE OF INSPECTION: _____

TEST FREQUENCY: SEMI-ANNUAL

FIRE DEPARTMENT OFFICIAL CONTACTED: _____

FUNCTION	SAT	UNSAT	COMMENTS
Pressure gauge in operable range.			
All lead and wire seals intact.			
No visible signs of activation or tamper.			
All piping and conduit is restrained with proper hangers and brackets.			
Check position of all nozzles.			
Check action on self-closing caps.			
Replace all protective covers on nozzles.			
Fusible links changed at least annually.			
Check cable nut travel tolerances.			
Test system operation from terminal link for proper operation.			
Interlocked systems shutdown upon discharge actuation.			
Test system operation with manual remote: proper manual operation.			
Proper operation of micro-switch.			
System is visible and free from obstruction.			
Inspection and service tag on system cylinder.			
Owner informed if all surfaces not protected.			
Dry chemical agent free from caking.			
Appropriate handheld extinguishers are located and serviced properly.			

PROBLEMS FOUND: _____

CORRECTIONS MADE: _____

This DRY CHEMICAL system has been tested and/or inspected for reliability consistent with the manufacturer's recommendations and in accordance with applicable nationally recognized standards, including those published by the NFPA. The specific information requested on this report form has been entered as applicable.

ALL DEFICIENCIES HAVE BEEN CORRECTED _____ YES _____ NO

OUTSTANDING DEFICIENCIES: _____

Signature of owner or representative: _____

Signature of tester: Company or Organization: _____ Date: _____

Contractor's License Number: _____ Type of License: _____

Mailing Address: _____

Telephone Number: _____

APPENDIX C: HAZARDOUS MATERIALS STORAGE PERMIT APPLICATION

PART 1

I.D. _____
(02/29/88)

AUSTIN FIRE DEPARTMENT
HAZARDOUS MATERIALS STORAGE
PERMIT APPLICATION

BUSINESS NAME _____
STREET ADDRESS _____ ZIP _____
MAILING ADDRESS _____ ZIP _____

RESPONSIBLE OFFICIAL (Owner, President, General Manager)
NAME _____
TITLE _____ BUSINESS PHONE _____
SIGNATURE _____

Name/telephone number of person to contact for application questions

PRINCIPLE BUSINESS ACTIVITY _____
HOURS OF OPERATION _____ NO. OF EMPLOYEES _____
YEARS IN OPERATION AT THIS SITE _____

EMERGENCY CONTACTS – 24 HOURS BASIS
NAME _____ TITLE _____
BUSINESS PHONE _____ HOME PHONE _____
NAME _____ TITLE _____
BUSINESS PHONE _____ HOME PHONE _____

OFFICIAL USE ONLY:

REC'D: _____ ENG. REVIEW _____ ENG. APPROVAL _____
BY: _____ DATE _____ DATE _____
PAID \$ _____
CHECK # _____

AUSTIN FIRE DEPARTMENT
Fire Prevention Division
Engineering Services, Hazardous Materials
One Texas Center, Suite 200
505 Barton Springs RD
Austin, Texas 78704

PART 2

FACILITY STORAGE MAP

- A. Provide a scale map of the facility demonstrating the following:
 - 1. Scale;
 - 2. Point of compass;
 - 3. Location of all structures/buildings;
 - 4. Location of hazardous material storage/use areas;
 - 5. Parking lots, internal roads and drives;
 - 6. Storm and sanitary sewer drains and manholes.

HAZARDOUS MATERIALS STORAGE INVENTORY

- A. Complete the inventory form on the following page for those materials stored at your facility which meet the criteria for toxicity, flammability and/or reactivity in [Appendix A](#).
- B. In Column 1. Enter the letter or number used to denote the product or chemical storage location as shown on the map.

EXAMPLE: The letter "A" is used to mark the area on the map where Acetylene is stored. The letter "A" is then used in column 1 prior to Acetylene which is then entered in column 2.
- C. In column 2. Enter the common chemical or product name as shown on the container or material safety data sheet for this material.
- D. In column 3. Enter the maximum amount of each material that you would have on site at any time during the year. Materials are to be listed as pounds for solids, gallons for liquids and cubic feet for gases. If required, the Hazardous Materials Section will provide conversion factors.
- E. In column 4. Enter the appropriate hazard rating for each material. If you have any questions as to the proper rating of a specific material, contact the Hazardous Material Section.

A. The permit applicant shall develop a Contingency Plan for the facility which describes the planned response procedure that facility personnel will take in the event of fires, explosions, or any unauthorized discharge of hazardous materials. One (1) or more revised copies of this plan should be kept readily accessible at the facility and one(1) copy (to be revised as necessary) will be submitted with the permit application. The Contingency Plan shall include the following elements:

1. Name, business address and emergency telephone numbers for the designated primary and alternate emergency response persons for the facility. Telephone numbers for both persons during work hours and after hours shall be included.
2. A list of emergency assistance telephone numbers to be called in the event of emergencies.
3. An evacuation plan for the facility describing signals to be used by facility personnel.
4. A hazardous material spill containment and clean up plan describing the immediate actions facility personnel would take to contain any spilled materials, mitigate their effects on human health or the environment and clean up the affected area of the spill. The actions prescribed in the plan should demonstrate that the different types of suggested responses are based on the relative hazards of the materials involved, the physical and chemical properties of the materials, the capabilities of any emergency equipment available at the facility and characteristics inherent with the areas where the spills may occur.
5. The name, business address and telephone number of at least one (1) contractor capable of handling the spilled material and the name and business address of at least one (1) company permitted to haul the spilled material (if a transported independent of the contractor is used).

B. A simplified version of the emergency procedures shall be provided to each employee who deals with the hazardous materials and shall also be posted in conspicuous locations where the regulated materials are stored or handled outside of the manufacturing process areas of the facility.

C. The Contingency Plan should be reviewed periodically and must be amended whenever:

1. The facility design, construction, operation, maintenance, hazardous materials management or other circumstances change to increase the potential for fires, explosions or releases of hazardous materials; or
2. The appropriate responses to an emergency change; or
3. The name or telephone number of a primary or alternate emergency response person change; or
4. The list of emergency assistance organizations changes; or
5. The designated contractor and/or transported for spill cleanup changes; or
6. The plan fails in an emergency.

PART 4

MONITORING PLAN

Monitoring Plans are required for each storage facility to describe the type of storage and the methods used to ensure that the storage containment is not leaking. The plan will include at a minimum the following:

- A. A brief description of the type of storage containment.
- B. The schedule of inspections – to be based on the type of material stored and type of storage containment.
- C. The nature of the inspection – description of visual or electronic methods used depending on the type of storage.
- D. A copy of all logs or other reports to be used in the inspections.
- E. The type of containment to be inspected – primary and secondary containment.
- F. A written evaluation of the accuracy of any mechanical or analytical methods and proposed timing and methods for equipment calibration

PART 5

CLOSURE PLAN

- A. The Closure Plan shall describe the procedures that will be taken to terminate the storage of hazardous materials at the facility in the event that:
 1. The site will be found to be uncontaminated and no cleanup will be required; or
 2. The site will have some contamination but can be proved to not require any cleanup; or
 3. The site will be significantly contaminated and some form of remedial action will be required to cleanup or decontaminate the site.
- B. Closure Plans are required for each facility to describe the actions to be performed in the event that the facility is closed. The plan will include at a minimum the following:
 1. Plans for the removal, neutralization, reuse or disposal of the materials previously stored at the site. These plans will include the following:
 - a. List of those materials to be removed, and to what location.
 - b. Name of the landfill to which the materials will be sent for disposal.
 2. Plans for the sampling of soil/water for contamination at those locations anticipated to have maximal amounts of contamination. These plans will include the following:
 - a. Name of business conducting sampling and analysis.
 - b. Type of sampling methodology to be employed.

- c. Type of test methods to be employed.
 - d. Contingency Plans in the event that contamination is verified.
3. An updated version of the Closure Plan is to be submitted 30 days prior to the actual closure if any provisions of the original Closure Plan have changed.

APPENDIX D

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

| The fire flow requirements are contained in the ~~2009~~2012 International Fire Code, Appendix B.

APPENDIX E: FIRE PROTECTION PLANS SUBMITTAL REQUIREMENTS

1.0.0 FIRE CODE SITE PLAN GENERAL SUBMITTAL REQUIREMENTS

1.1.0 PLANS AND DRAWINGS

Drawings shall be drawn on standard size sheets that can be easily duplicated and shall show the following information:

- A. Address, if known.
- B. Key map showing location of site.
- C. Symbol/legend key and scale.
- D. Name, signature and seal of registered professional engineer.
- E. North arrow.
- F. Dimensions of vertical clearance of all overhead obstructions (i.e., tree limbs, overhangs, canopies, headache bars).
- G. Proposed traffic patterns of driveways on site plan (i.e., one or two way operation), identifying and labeling all physical barriers to vehicular access including gates, bollards, landscaping, etc.
- H. All driveway dimensions, grades, turn radii and design specifications; include materials, bearing load capacity, etc. (T-section, hammerhead, cul-de-sac).
- I. Dimensions of all existing and proposed buildings, parking lots and vehicular use areas, landscape islands, peninsulas and medians, amenities, walls, fences, sidewalks and any other land improvements. All roadways, driveways, overpasses, bridges, culverts and decorative/pervious pavers shall be labeled and identified with support loads clearly indicated.
- J. Location of proposed and existing structures, landscaping, public fire hydrants (within 500 feet of the site measured along the means of fire department access), private fire hydrants and the fire department access roadways.
- K. Information for each structure on site:
 - 1. Proposed use
 - 2. Number of stories
 - 3. Proposed height to the top occupied floor
 - 4. Finished floor elevation(s)

5. Square footage of structure footprint
6. Total square footage of structure

2.0.0 FIRE CODE SUBMITTAL REQUIREMENTS FOR WATER PLANS

2.1.0 PLANS AND DRAWINGS

Private fire protection water supply systems shall comply with the "Standard for the Installation of Private Fire Service Mains and Their Appurtenances", NFPA 24, ~~2007-2010~~ Edition. Drawings shall be drawn on standard size sheets that can be easily duplicated and shall show the following information:

- A. Date.
- B. Scale (no smaller than 1:~~100~~50, prefer 1:30).
- C. North arrow.
- D. Key plan showing location of the project.
- E. Address, if available.
- F. Title under which the project is to be recorded.
- G. Name, address and phone number of owner.
- H. Name, address and phone number of person preparing the drawings.
- I. Name, signature and seal of professional engineer.
- J. Name, address and phone number of contractor.
- K. City of Austin file number.
- L. Total fire flow for project.
- M. Sources of water supply with pressure and elevation.
- N. Underground pipe size, length, weight, material, point of connection to City main; type of valves, meters and valve pits; depth that top of pipe is laid below grade.
- O. All fire protection appliances, type, location, arrangement, size, number of inlets, threads, support, drainage provided (i.e. hydrants, monitors, etc.).
- P. Hydraulic reference points clearly labeled.

2.2.0 MANUFACTURER'S LITERATURE

All water construction document submittals shall include manufacturer's data sheets on all material and devices that are to be installed. Manufacturer's data sheets shall include the technical listing agencies (U.L., F.M.) for each device if applicable.

2.3.0 HYDRAULIC CALCULATIONS

All hydraulic calculations shall be concise and clear. To determine the type of hydraulic calculations that are required for certain projects, refer to the rules for International Fire Code Section 507.1. Hydraulic calculations include the following information:

- A. Title under which project is to be recorded.
- B. Location of project including address, if applicable.
- C. Name, address and phone number of person preparing the calculations.
- D. City of Austin file number.
- E. Hydraulic reference points clearly labeled from water construction blueprint.
- F. Pipe number, diameter and length clearly noted from water construction prints.
- G. The coefficient of roughness for each type of pipe being calculated.
- H. Director of flow in each pipe section.
- I. The velocity in each pipe section.
- J. The loss of pressure in each pipe section.
- K. Grade elevation of each hydraulic reference point.
- L. Pressure available at each hydraulic reference point.
- M. All demands on water system and hydraulic reference points of those demands.
- N. All fire demands shall be noted and highlighted.
- O. Total fire and domestic demands on system.
- P. Name, signature and seal of professional engineer.

2.4.0 WATER SUPPLY INFORMATION

Available water supply data including a graph which compares the system demand to the available supply information shall be included on the size of the City water main(s) and whether the main(s) is/are a dead-end or circulating type. If the main(s) is/are a dead-end type, provide the distance to the nearest circulating main and the size of that main. Also describe in detail any other source of water supply. All water flow test data shall be shown on the plans and shall include the following information:

- A. Location and elevation of static and residual test gauge with relation to the project reference point.
- B. Flow location.
- C. Static pressure, (pounds per square inch).

- D. Residual pressure, (pounds per square inch).
- E. Pitot pressure, (pounds per square inch).
- F. Flow, (gallons per minute).
- G. Date.
- H. Time.
- I. Test conducted by.
- J. List of equipment utilized in test.
- K. Number, size and roughness coefficient of outlet(s) being flowed.

3.0.0 FIRE CODE SUBMITTAL REQUIREMENTS FOR BUILDING PERMITS

3.1.0 GENERAL REQUIREMENTS

A. *Application for Review.* All building permit construction documents shall be submitted to the City of Austin Planning and Development Review Department. An application is completed, attached to the plans, and is subsequently distributed to the Austin Fire Department. Revisions and corrections made to the original set of construction documents must be submitted to the City of Austin Planning and Development Review Department for review.

B. *Submittals.* All building construction documents must be submitted in the format as outlined by the City of Austin Planning and Development Review Department. System installation drawings (shop drawings) shall be submitted to the Austin Fire Department Emergency Prevention Division.

C. *Plans and Drawings.* Drawings shall be drawn on standard size sheets that can be easily duplicated and shall show the following information:

1. Date
2. Scale
3. North arrow
4. Symbol/legend key
5. Title under which the project is to be recorded
6. Address of project
7. Key/location map
8. Name, signature and seal of a registered professional engineer
9. Planning and Development Review Department file number

10. City of Austin zoning number

11. Code/Standard and year of edition utilized

D. *Calculations.* All calculations, if provided for Building Permit review, shall be concise and clear. All computer generated calculations may need to be accompanied by a detailed description of the computer program's operation. For companies who intend to submit computer generated calculations for numerous projects, all based on the same program, the company may elect to submit three (3) copies of detailed description of their program operations on a one-time basis thereby eliminating the need to provide copies with each submittal. The three (3) one-time copies shall be provided in a loose-leaf type binder with the company's name, address, phone number, state license number and program name on the outside of the binder. When required, the following information shall be included on the calculation sheets:

1. Title under which project is to be recorded
2. Address of project
3. Appropriate state designer's/installer's license and registration numbers or name, signature and seal of registered professional engineer
4. Identification of type of calculations (method and system type)
5. Clearly noted all units of measure and abbreviations

E. *Specifications Manuals.* Specification manuals shall be submitted as part of the building construction documents. These manuals shall be concise and clear and include the performance objective, sequence of operation and material utilized for each fire protection feature. As soon as the design is finalized, manufacturer literature shall be submitted for all fire protection system components.

3.2.0 SPECIFIC REVIEWS

3.2.1 Site and Water Plan Confirmation

The previously approved site and water plans must be submitted with the building construction documents. These plans shall include the means of Fire Department access and all noted fire lanes. If these plans have not been approved prior to building construction document review, they will be reviewed at this time.

3.2.2 Fire Lane Review

Fire lanes shall be reviewed in their entirety during the building permit review process, unless this review has been performed during the site plan review process.

3.2.3 Standpipe Systems

The need for and design basis for standpipe systems will be required to be identified at the time of Building Permit review. Standpipe systems and fire hose systems will be reviewed in their entirety prior to system installation. For this complete review to take place, the following information shall be included:

- A. A brief description of the method of design. For example, use of pipe schedules (acceptable for renovating existing schedule systems) versus hydraulic design (required for all new systems and systems previously calculated).
- B. At least 2 completed sets of plans/prints (1 for AFD's records) showing the following:
 - 1. Architectural details of building (wells, doors, partitions, corridors, etc.)
 - 2. Size, arrangements, types, threads and location of all hose valves and reducers
 - 3. Type and location of all alarm and supervisory devices and associated equipment
 - 4. Type, schedule of wall thickness and pressure rating of all pipe
 - 5. Nominal pipe size as well as cut lengths or center to center lengths of pipe (indicate type)
 - 6. Type and pressure ratings of all fittings and joints as well as the location of all welds and bends
 - 7. Type and location of all hangers and sleeves as well as pipe supports
 - 8. Types, sizes, location and arrangement of all control valves, check valves, drain pipes, test pipes and drains including termination points of drains
 - 9. Underground pipe size, length, material, schedule, point of connection to the City or private water main, type and location of all valves, meters, backflow prevention assemblies, valve pits and the depth of the top of the pipe below grade
 - 10. Fire Department connection type, location, arrangement, size, number of inlets, threads, support and drainage provided
 - 11. Three-way roof manifold type, location, arrangement, size, threads and drainage provided
 - 12. Size, location and arrangement of pressure gauges
 - 13. Hose rack/reel type, location, size and arrangement
 - 14. Nozzle size, threads, type and location
 - 15. Gravity tank/pressure tank size, construction, location, type and arrangement
 - 16. Type, location and arrangement of any fire pump and all related equipment
 - 17. Location and description of any other fire protection system connection

18. Hydraulic calculation reference nodes clearly shown, if applicable

19. Location, type and arrangement of fire resistive barriers for the risers and laterals Class I and III standpipes

20. City of Austin building permit related tracking number. This can be the plan review tracking number (PR number) or the building permit number (BP number).

C. *Water Supply Information.* Provide all available water supply data including a graph which compares the system demand to the available supply. Information shall be included on the size of the City or district water main(s) and whether the main(s) is/are a dead-end or circulating type. If the main(s) is/are a dead-end type, provide the distance to the nearest connected circulating main and the size of that circulating main. Also describe in detail any other source of water supply. All water flow test data shall be shown on the plans and shall include the following information:

1. Location and elevation of static and residual test gauge with relation to the project reference point.
2. Flow location.
3. Static pressure, (pounds per square inch).
4. Residual pressure, (pounds per square inch).
5. Pitot pressure, (pounds per square inch).
6. Flow, (gallons per minute).
7. Date.
8. Time.
9. Test conducted by.
10. List of equipment utilized in test.
11. Number, size and roughness coefficient of outlet(s) being flowed.

D. *Hydraulic Calculations.* A full set of hydraulic calculations shall be submitted unless a pipe schedule is the system design basis. Specific reference must be made for a schedule system to be accepted. Calculations shall terminate at the location of the flow pressure hydrant.

E. Standpipe system shall be designed and installed in accordance with the latest locally adopted edition of the International Building Code, International Fire Code, NFPA 14, NFPA 20, NFPA 24 and any applicable local amendments and rules.

3.2.4 Fire Pumps

Estimated volumetric and pressure demand of fire pumps shall be submitted at the time of Building Permit Review. Fire pumps used in conjunction with standpipe and sprinkler systems, as well as other fire

protection systems and private fire service underground water systems will be entirely reviewed prior to system installation. For a complete review to take place, the following information shall be included:

A. Description of fire pump type as well as discharge ratings and capacity. Describe and detail means of pump drive.

B. At least 2 complete sets of prints/plans (1 for AFD's records) showing the following:

1. Location of fire pump in building showing all details of the fire pump room including provisions for heating, cooling, ventilation of room, drainage in room, emergency lighting and protection from adverse conditions.

2. Full fire pump detail including:

a. Fire pump.

b. Type, size, location and arrangement of all check valves, control valves and drain pipes in pump room including termination point of drains.

c. Type and location of all hangers and sleeves as well as pipe supports in pump room.

d. Type and pressure ratings of all fittings and joints as well as the location of all welds and bends in pump room.

e. Type, schedule of wall thickness and pressure rating all pipe in pump room.

f. Type and location of all supervisory devices and associated equipment in pump room.

g. Location, size and type of pressure gauges on pump.

h. Location, size and type of circulation relief valve on pump.

i. Location, size and type of relief valve on pump.

j. Location, size and arrangement of pump bypass.

k. Jockey pump as well as jockey pump piping, control and check valves.

l. Water measuring devices showing location and size of flow meter, test header as well as size and location of all associated piping, control and check valves.

m. Location, type and associated wiring of fire pump and jockey pump controllers.

n. Location, type and size of fire pump deliver.

C. Fire pumps shall be designed and installed in accordance with the latest locally adopted edition of the International Building Code, International Fire Code, NFPA 20, NFPA 22, NFPA 24 and any applicable local amendments and rules.

3.2.5 Automatic Sprinkler Systems

A. Inspections are required for all construction projects involving the installation or modification of fire sprinkler systems regardless of the number of sprinklers or devices involved. The Austin Fire Department, Emergency Prevention Division, shall use the following criteria for the submittal of automatic sprinkler shop drawings for tenant finish-out projects.

1. Light or ordinary hazard sprinkler systems: Shop drawings shall be submitted as required in paragraph C below, for all new systems, and when more than twenty (20) sprinklers total are added, relocated and/or deleted.
2. Extra hazard sprinkler systems: Shop drawings shall be submitted as required in paragraph C below, for all new systems, and when more than ten (10) sprinklers total are added, relocated and/or deleted.

B. Documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/department/fire>

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~~B-C.~~ For projects that do not require shop drawings, a letter from the installing contractor shall be submitted to the Austin Fire Department with the following information:

- a. The current date.
- b. The installing contractor's name, address, telephone number, and State of Texas license number.
- c. The project name and address.
- d. The number of sprinklers relocated, the number of sprinklers added, and the number of sprinklers plugged.
- e. A statement indicating or acknowledging that all work and materials shall comply with the requirements of NFPA 13.
- f. The letter must be signed by the R.M.E. for acceptance by the Austin Fire Department. The Austin Fire Department retains the right to request, review, and comment upon plans if deemed necessary.

C. Plans shall continue to be submitted for all new projects and for all projects involving any automatic sprinkler system alterations in occupancies defined as Assembly, Educational, or Institutional by the ~~2009-2012~~ International Fire Code. Plans shall also be submitted for changes in the occupancy's use which require the redefinition of automatic sprinkler design/hazard classifications, application area, or design density. Any sprinkler system alteration which includes a change of occupancy shall also require plans submittal.

D. Submittal of appropriate documentation for either new or remodeled systems and the Austin Fire Department's approval of applicable drawings/calculations shall be required prior to installation of fire detection, alarm, or suppression systems. Waiver of prior approval shall be at the discretion of the Austin Fire Department and must be documented by written correspondence from the Austin Fire Department.

E. Sprinkler system shop drawings shall be reviewed prior to system installation. Sprinkler plans must be drawn in 1/8" scale or larger, unless otherwise approved by the Austin Fire Department Engineering Services Section. For a review to take place, the following information shall be submitted to the City of Austin Fire Department:

1. A minimum of two (2) complete sets of contractor's plans/prints showing all the information specified in Chapter 8 of NFPA 13, 2010-2013 edition plus the following information:

- a. Type and location of all alarm and supervisory devices and associated equipment.
- b. Capacity (in gallons) of each dry-pipe system.
- c. Type, wall thickness and pressure rating of all pipe.
- d. Type and pressure ratings of all fittings.
- e. Size, location and arrangement, and type of threads for all hose, hose connections and related equipment.
- f. Provisions for flushing.
- g. When the equipment is to be installed as an addition to an existing system, enough of the existing system shall be indicated on the plans to make all conditions clear.
- h. Location and description of any nonfire protection related connection to the system.
- i. Type, location and arrangement of all fire department inlet connections and associated equipment.
- k. Type, location and arrangement of any fire pump and all related equipment.
- l. Hydraulic calculation reference points clearly shown on drawings.
- m. Type, number and location of spare sprinklers and wrench.
- n. The total number of each type of sprinkler on each floor.
- o. Storage type, size and location including all specific information regarding the storage arrangement (i.e., dimensions/ type of racks or piles, etc.).
- p. City of Austin building permit related tracking number. This can be the plan review tracking number (PR number) or the building permit number (BP number).

F. Hydraulic Calculations. For hydraulically designed systems, provide a complete set of detailed hydraulic calculations. For pipe scheduled systems, provide calculations to justify adequate flow/pressure to operate the sprinkler system (see the Fire Protection Criteria Manual for a copy of the approved hand calculation data sheet to be utilized).

G. Automatic Sprinkler systems shall be designed in accordance with the latest locally adopted editions of the NFPA 13, International Building Code, International Fire Code, and any applicable local amendments and rules.

3.2.6 Smoke Control and Smoke Removal Systems

Smoke management systems will be reviewed in their entirety during the building permit review. For this complete review to take place, the following information shall be included:

- A. A description of the system type, what the system is designed to achieve, as well as system operation (manual and automatic modes)
- B. Complete set of prints/plans showing the following:
 - 1. Architectural details of building (walls, corridors, doors, partitions, etc.).
 - 2. Location, size and capacity of all smoke control/removal fans.
 - 3. Location and size of all smoke dampers.
 - 4. Location and type of all related smoke detectors, heat detectors, water flow detectors as well as any other automatic interface devices.
 - 5. Full details concerning location and arrangement of automatic and manual controls.
 - 6. Location, size and arrangement of all make-up air devices.
 - 7. All electrical, pneumatic, mechanical or hydraulic equipment used for system operation.
 - 8. Curtain board location, size and construction.
 - 9. Type, size and location of all openable or removable windows.
- C. A full, detailed, testing criteria schedule.
- D. *Calculations.* A set of calculations including all volumetric considerations and expected smoke generation levels of projected fire scenario.
- E. Smoke management systems shall be installed and designed in accordance with the latest adopted edition of the International Fire Code, International Building Code, Uniform Mechanical Code and any applicable local amendments and rules.

See Section 3.2.15 for submittal requirements for the review of stairwell/vestibule pressurization systems.

3.2.7 Smoke and Heat Vents

Smoke and heat vents will be reviewed in their entirety during the building permit review. For a complete review to take place, the following information needs to be included:

- A. A brief description of the method of design.

B. Complete set of prints/plans showing the following:

1. Location, size and type of all smoke and heat vents.
2. Location and type of means of manual activation.
3. Curtain board location, size and construction.

C. *Calculations.* A set of calculations including all volumetric considerations and commodity hazard classification

D. Smoke and heat vents shall be designed in accordance with the latest locally adopted editions of the International Fire Code, International Building Code and any applicable local amendments and rules.

3.2.8 Emergency and Standby Power Systems

Emergency and standby power systems will be reviewed in their entirety during the building permit review. For a complete review to take place, the following information needs to be included.

A. A complete description of the system operation, function and time required to reach full power.

B. Complete sets of prints/plans showing the following:

1. List of all equipment required to be supplied with emergency power.
2. Location of all equipment and associated wiring and architectural details of the enclosure.
3. Wiring schematics of all control panels, power panels, transfer switches and all related equipment.
4. Location, size, type and arrangement of fuel storage (or battery storage if applicable).

C. *Manufacturer's Literature.* A complete manufacturer's literature package shall be submitted for approval. This package shall include type, size and maximum power output of the equipment to be installed.

D. *Calculations.* A full set of detailed power calculations including all supplied equipment power draws (including start-up).

E. Emergency power and standby systems shall be designed in accordance with the latest locally adopted editions of the International Fire Code, International Building Code, NFPA 110, NFPA 37 and any applicable local amendments and rules.

3.2.9 Fire Alarm, Detection and Emergency Communications Systems

As a minimum, fire alarm/detection/emergency communications systems shall be conceptually identified along with the design basis at the time of Building Permit Review. Fire alarm, detection, and emergency

communication systems will be reviewed in their entirety prior to system installation. For a review to take place, the following information shall be submitted:

A. For general alarm systems, a scope of work indicating the system type and any additional functions it may provide. A sequence of operation for all system components and related operations it may perform (shut down fans, pressurized stairs, etc.) shall be included. At least 2 sets of contractor's plans/prints (1 for AFD's records) showing the following:

1. All information specified in Sections 907.1.1 and 907.1.2 of the 2009-2012 International Fire Code. Documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/department/fire>
2. Type and location of fireman's telephone jacks or permanent telephone handset.
3. Type and location of all stairwell telephone handsets.
4. Type and location of all supervisory devices (tamper switch, low air supervisory switch, etc.).
5. Exact location and type of duct detectors showing precisely where the detector will be placed in relation to all air handlers and supply/return ducts.
6. For addressable systems, show device address on plan.
7. Relays for additional system functions.
8. Elevation view of all graphic annunciator panels detailing the method of device or function labeling.
9. Riser diagram showing all devices and zoning provided.
10. The License number, address, and phone number of the installing contractor.
11. City of Austin building permit related tracking number when applicable. This can be the plan review tracking number (PR number) or the building permit number (BP number).

B. For fire alarm installations involving 5 or fewer fire alarm devices on an existing system, the Austin Fire Department will now accept documentation in the form of a letter and simple plan, in lieu of a plan submittal. The letter and plan must be written and submitted in accordance with the following guidelines:

1. Letter must be written and signed by the firm's APS, on the installing contractor's letterhead, with State License number shown, and with the following information:
 - a. Project name and address, including suite number if applicable.
 - b. Number and type of devices, including candela rating of strobes.
 - c. Indicate that the installation and materials shall be in accordance with NFPA 72, and that voltage drop and backup battery calculations have been performed and are in accordance with NFPA 72 requirements.
2. Letter and plan may be faxed or emailed to reviewer, and stamped letter and plan can be faxed or emailed to contractor. Contractor may also make an appointment with an AFD plan reviewer (if time permits), and bring the letter in for approval along with a plan

showing the proposed device locations. After checking the plan for basic device spacing, the reviewer will stamp the letter approved, if acceptable

3. The approved letter and plan must be on site and be available for the AFD inspector prior to the fire alarm system test. Note: Normal plan submittals with 7 day turnaround times will still be accepted for these installations if desired.

C.D. For installations of systems to be used to only monitor fire sprinkler systems, the Austin Fire Department accepts documentation in the form of a letter. The letter must be written and submitted in accordance with the following guidelines.

1. A completed New Fire Alarm Fee Calculation Form, along with the required fee (generally \$100) must be submitted with the letter.
2. Letter must be written and signed by the firm's APS, on the installing contractor's letterhead, with State License number shown, and with the following information:
 - a. Project name and address, including suite number if applicable.
 - b. Material equipment list.
 - c. Indicate that the installation and materials shall be in accordance with NFPA 72, and that voltage drop and backup battery calculations have been performed and are in accordance with NFPA 72 requirements.
3. Contractor may mail or hand carry the letter and fee to AFD plan review, or may make an appointment to meet with a reviewer. After checking the submittal, the reviewer will stamp the letter approved, if acceptable, and return (or fax) it to the contractor.
4. The approved letter must be on site and be available for the AFD inspector prior for the system test. Note: Normal plan submittals with 7 day turnaround times will still be accepted for these installations if desired.

D. Fire alarm/detection systems shall be designed in accordance with the latest locally adopted editions of the International Building Code, International Fire Code, NFPA 70, NFPA 72, and any applicable local amendments and rules.

3.2.10 Cooking Hood Extinguishing Systems

Engineered commercial cooking exhaust hood extinguishing systems provided for protection of kitchen grease hoods and ducts will be entirely reviewed during the building permit review. Pre-engineered systems descriptions shall include the extinguishing agent planned, the supply and exhaust air arrangement and controls, and the listing or approval agency (e.g. UL, FM). For a complete review of an engineered system to take place, the following information shall be included:

- A. Description of extinguishing system type (automatic sprinkler, carbon dioxide, dry chemical or liquid agent).
- B. Type of system design -- either an engineered system or a pre-engineered system.
- C. Engineered systems shall contain full details of system design as outlined in the subsection outlining the special system type.

D. Design shall specifically note interconnection for fuel supply shut-off, ventilation control, damper control, associated ducting system, alarm retransmission, etc.

E. Cooking hood extinguishing systems shall be designed in accordance with the latest locally adopted editions of NFPA 13, NFPA 17, International Fire Code, International Building Code, Uniform Mechanical Code and any applicable local amendments and rules.

3.2.11 Portable Fire Extinguishers

A. The location, type and size of all portable fire extinguishers shall be noted on the building permit floor plans. If portable extinguishers are to be mounted in recessed cabinets, then a detail is required outlining the method of cabinet installation.

B. Portable fire extinguishers shall be in accordance with the latest locally adopted editions of the International Building Code, International Fire Code, NFPA 10, and any applicable local amendments and rules.

3.2.12 Atrium Review

At the building permit stage, atrium smoke management systems shall be submitted for review and approval as described in Section 3.2.6. Prior to system installations, fire sprinkler and fire alarm system contractor's drawings and calculations (shop drawings) shall be submitted for review and approval as described in Sections 3.2.5, 3.2.6, 3.2.8 and 3.2.9. For complete review to take place, the following information shall be included:

A. Atrium smoke management system boundaries shall be clearly identified. The tenant smoke control system boundaries must be clearly identified.

B. Clearly indicate location and construction type for all atrium separations that are less than one (1) hour fire resistive construction.

C. A complete list of all atrium furnishings indicating the combustible items shall be submitted to the City of Austin Fire Department for approval. In addition, written justification and certificate of proof for the flame retardant treatment of combustible materials shall be submitted with this list.

For specifics on smoke control system submittal requirements, see "Smoke Control and Smoke Removal Systems" of Section 3.2.6.

3.2.13 High-Rise Review

High-rise construction documents will be reviewed in the same manner as other structures. The review will encompass all special features that are specifically required for all high-rise buildings. The reviews must be completed prior to construction or installation of features or systems, as applicable. For reviews to take place the following information shall be included:

A. Complete set of prints/plans showing the following:

1. Fire control room location and dimensions

2. Location, type and maximum dimensions of all equipment contained within the fire control room (i.e., fire alarm/detection panels, public address and voice alarm system panels, fire department communication panels, elevator control panels, emergency generator control panel, HVAC control panel, etc.). For the submittal requirements on a particular system, see the appropriate section of "Specific Reviews."
3. Outside telephone
4. Cabinet for handsets to the fireman phones
5. Secured building key box
6. Confirmation of all required systems

B. High-rise construction documents shall be designed in accordance with the latest locally adopted editions of the International Building Code, International Fire Code, Uniform Mechanical Code, Uniform Plumbing Code and any applicable amendments and rules.

3.2.14 Special Ventilation Systems

Special ventilation systems provided for the removal of vapors, gases and particulates will be reviewed as part of the building construction document review. For this review to take place, the following information shall be included:

- A. A complete material safety data sheet on each material being ventilated.
- B. A description of the system type, operation and means of vapor, gas, particulate removal.
- C. Complete set of print/plans showing the following:
 1. Location, dimensions and construction of area or equipment being ventilated.
 2. Location, dimensions and construction of all ductwork.
 3. Location and size of make-up air inlets.
 4. Size, type and location of all fans.
 5. Complete wiring diagrams.
 6. Type and location of all manual controls.
 7. Type and layout of control system (electric, pneumatic, hydraulic, etc.).
 8. A full set of calculations shall be submitted. These calculations shall include such information as all work being completed in the area being vented, volumetric dimensions of area being vented, system velocity, material weight being vented, etc.

3.2.15 Stairwell/Vestibule Pressurization Systems

As a minimum, stairwell/vestibule pressurization systems shall be conceptually reviewed during the building permit process. A complete and detailed review of the system design shall be required prior to system installation. For a complete review to take place, the following information shall be submitted:

- A. Complete set of plans/prints showing the following:
 - 1. Architectural details of the shaft including construction, all penetrations (including doorways), seals/gasketing provided.
 - 2. Size, type and location of all fans.
 - 3. Size, type and location of all barometric reliefs.
 - 4. Type and location of all manual/automatic controls.
 - 5. Size, location and type of all louvers and dampers.
 - 6. Location, dimensions and construction of all ductwork.
 - 7. Size and location of all air injection and removal points.
 - 8. Location and size of all system air intakes and exhausts.
 - 9. Location, dimensions and construction of all vestibules.
 - 10. Type of control equipment (i.e., electric, pneumatic, hydraulic, etc.).

- B. Complete set of calculations noting the following:
 - 1. Pressure(s) to be obtained.
 - 2. Temperature assumptions.
 - 3. Differential pressures (stack effect).
 - 4. Leakage factors (i.e., cracks, doors/windows open, vents, etc.).
 - 5. Air velocities.
 - 6. Pressure loss due to friction.

- C. Stairwell/Vestibule pressurization systems shall be designed in accordance with the latest locally adopted editions of the International Building Code, International Fire Code, Uniform Mechanical Code and any applicable amendments and rules.

3.2.16 Key Boxes

- A. Location and size of "Knox Box" shall be clearly noted on the building construction documents.

B. The Knox Boxes shall be installed in accordance with the latest locally adopted editions of the International Building Code, International Fire Code and any applicable amendments and rules.

3.2.17 Explosion Venting

As a minimum, explosion vents for hazards involving deflagrations of dusts, gases and mists in equipment room, buildings or other enclosures will be reviewed for conceptual compliance during the building permit review. A complete and detailed design review shall be required prior to construction/installation. For a complete review to take place, the following information needs to be included:

- A. A description of design method, what the venting proposal designed is to achieve, venting type and operation.
- B. A full set of prints/plans showing the following:
 - 1. Design standard.
 - 2. Room, building, equipment that is being vented (include all structural and architectural details).
 - 3. Size, location, shape and arrangement of open (unobstructed) or semi-obstructed room/building vents such as louvers, hanger type doors and open roof vents.
 - 4. Size, location, shape and arrangement of closed/sealed building vents such as doors, windows, movable sashes, roof panels, wall panels, skylights, monitors.
 - 5. Size, location, shape and arrangement of closed/sealed equipment vents such as charging doors, inspection ports, diaphragms (cloth, paper, plastic, metal) and any associated diaphragm cutter.
- C. A full set of data sheets concerning the explosive materials and their properties. The details shall include the following as applicable:
 - 1. Flammable range (limits).
 - 2. Explosive range (limits).
 - 3. Auto-ignition temperature.
 - 4. Fire point.
 - 5. Flash point.
 - 6. Material's rate of pressure rise.
 - 7. Material's maximum pressure attained.
 - 8. Dust particle size.
 - 9. Minimum input energy for ignition.

10. Ignition temperature.
11. Dust class.
12. Fundamental burning velocity and flame speed.

D. A full set of calculations including information such as vent ratios, all surface and volumetric considerations, vent release pressure, maximum pressure not to be exceeded, initial turbulence, initial temperature and pressures, fuel concentration, oxidizer concentration, presence of any admixed moisture or inert diluents and any hybrid mixtures.

E. Explosion vents shall be designed in accordance with the latest locally adopted edition of the International Building Code, International Fire Code, NFPA 68 and any applicable local amendments and rules.

3.2.18 Basement Pipe Inlets

A. Basement pipe inlets used for the application of water from fire fighting cellar pipes and distributors will be reviewed in their entirety during the building permit review.

B. For a complete review to take place, the following needs to be included:

1. A full set of prints/plans showing the following:
 - a. Architectural details of basement and floor above basement.
 - b. Size, type, location and arrangement of basement pipe inlet.
2. Basement pipe inlets shall be designed in accordance with the latest locally adopted editions of the International Fire Code, International Building Code and any applicable local amendments and rules.

3.2.19 Special Hazards

A special hazard is any hazard that constitutes a high potential for life or property loss. All special hazards and their protection shall, as a minimum, be conceptually reviewed during the building permit review process. For other hazards not listed below, consult the Fire Prevention Division of the Fire Department to determine the requirements.

A. *Operation Process Fire Hazards.* Any occupancy that utilizes any process that may be or constitute a fire hazard shall submit detailed operational description and detailed prints showing lay out of the process.

B. *Hazardous Materials.*

1. Format of Submittals. All building construction documents must be submitted in the format as outlined by the City of Planning Protection and Development Review Department.

2. Calculations. All calculations shall be concise and clear. To determine the type of calculations that are required for a certain project, refer to specific reviews. The following information shall be contained on the calculation sheet:

- a. Title under which the project is to be recorded.
- b. Address of project.
- c. Name, signature and seal of registered professional engineer.
- d. Identification of type of calculations.
- e. Clearly noted units of measure and abbreviations.

3. Product/equipment. Where specific products or equipment are to be used in the containment or utilization of hazardous materials, the following information shall be provided:

- a. Manufacturer's specifications.
- b. UL or FM listing.
- c. Independent laboratory testing results (as required to verify compatibility of product and material stored).
- d. Name, signature and seal of a registered professional engineer.

C. *Specific Reviews*. Flammable/combustible liquid storage/use areas inside buildings. For those facilities designed for the storage and/or use of flammable liquids inside of buildings, the following information shall be provided:

1. Classification of liquid(s).
2. Maximum anticipated liquid volume.
3. Electrical system classification.
4. Ventilation calculations.
5. Containment and drainage calculations.
6. Fixed fire protection plans.
7. Building construction details.
8. Primary containment details.

D. *Flammable/combustible Liquid Storage Outside of Buildings*. For those facilities designed for the storage of flammable liquids outside of buildings, the following information shall be provided:

1. Classification of liquid(s).

2. Maximum anticipated volume of liquid.
3. Type and details of primary containment.
4. Type and details of secondary containment.
5. Calculations for secondary containment.
6. Fixed fire protection plans.

E. *Bulk Plants*. For those facilities with large capacity aboveground storage tank and piping systems, the following information will be provided for each tank system:

1. Type and properties of the material to be stored.
2. Description and design plan of the tank system.
3. Materials of construction (to include corrosion data).
4. Type of corrosion protection to be employed.
5. Piping and instrumentation diagrams with a description of the process flow.
6. Description and plan locations of all vent systems and flame arrestors (to include operating parameters).
7. Description and plans for all secondary containment systems (to include drainage provisions).
8. Description and plans of tank supports.
9. Specifications for normal operating temperatures and pressures associated with the tank system.
10. Delineate all liquid level sensors and gauging equipment (to include operating parameters and detection limits).
11. Monitoring report to describe the location of all sampling ports, wells/probes and the detection methods/limits of the equipment used (to include site geological data used in determining monitoring methodology).
12. Fixed fire protection systems.

F. *Storage of Compressed Gases*. For those facilities designed for the storage/use of compressed gases, the following information shall be provided:

1. Type of gas(es).
2. Maximum anticipated volume of gas(es).
3. Ventilation calculations.
4. Building construction details (to include cylinder restraints/tank supports).

5. Piping details (to include testing).
6. Fixed fire protection systems.

G. *Storage of Toxic Liquids.* For those facilities designed for the storage/use of toxic liquids, the following information shall be provided:

1. Name of liquid(s).
2. Maximum anticipated volume.
3. Building construction details.
4. Primary containment details.
5. Secondary containment details and calculations.
6. Ventilation calculations.

H. *High Piled and/or Rack Storage.* For those facilities designed for the storage of goods in a high-piled and/or high-rack configuration the following information shall be provided in any instance where storage is greater than 12 feet in height in an area greater than 500 square feet:

1. Complete information substantiating the commodity classification. This shall include the physical composition of the goods and packaging to be stored. This may require the submittal of Material Safety Data Sheets.
2. Information concerning encapsulation.
3. Information which explains the material the pallets are constructed from, i.e., wood, metal, plastic.
4. Rack design and layout drawn to an appropriate architectural scale.
5. Information substantiating the rack design meets RMI Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks
6. Aisle widths.

3.2.20 Clean Agent Fire Suppression Systems

As a minimum, clean agent fire suppression systems shall be conceptually identified along with the design basis at the time of Building Permit Review. Clean agent fire suppression systems will be reviewed in their entirety prior to system installation. For a review to take place the following information shall be submitted to the City of Austin Fire Department:

A. *Pre-Engineered Systems.* At least two (2) complete sets of shop drawings and specifications showing the following information shall be submitted:

1. Hydraulic calculations may not be required, but the design factors and design limitations shall be enumerated. Data shall include reference to the specific pages and plates from the manufacturer's design manual.
2. The actual percent-by-volume concentration of Halon for the specific volume shall be shown for both the minimum and maximum expected temperature.
3. Plans shall show the maximum area, maximum volume, type of clean agent, weight of clean agent, maximum pipe length, type of pipe, and number of fittings allowed in the specific design. Plans show the routing of the piping and should show sufficient detail to verify that the system does not exceed the piping limitations of the listing.
4. Multiple systems shall not be used to protect large areas unless the equipment listing allows it. Unless otherwise approved by the Chief, all containers used for the protection of a specific area shall be arranged for simultaneous release.
5. Scaled plan and section views to confirm that the volume is within design limitations. Plans shall show the location of the clean agent containers, control panel, detectors, manual releases and other essential components.
6. A bill of materials showing sufficient information on the various devices used in the installation so that the listing can be confirmed.
7. The discharge time.
8. An electrical plan showing the arrangement of the control unit, power supply, point-to-point electrical wiring of all equipment, ventilation interlocks, damper and door closure, equipment interlocks, time delays, and alarm devices, and if applicable, reserve power details with calculations to confirm sizing.
9. The sequence of events, indicating operation of system under normal and emergency conditions. The purpose and operation of system time delays and aborts should be documented and should meet the requirements of this guide. The sequence of events shall be in a format suitable for posting in the protected area.
10. Supply sufficient information to evaluate the following environmental factors:
 - a. Ventilation equipment and its operation.
 - b. Combustible loading.
 - c. Construction materials.
 - d. Presence of sprinklers.
 - e. Protective signaling service availability.
 - f. The tightness of the room.
11. City of Austin building permit related tracking number when applicable. This can be the plan review tracking number (PR number) or the building permit number (BP number).

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B. *Engineered Systems*. Shall be composed of equipment listed by U. L. or approved by FM. In addition to Items 5-10 above, at least two (2) complete sets of shop drawings, and specifications showing the following information shall be submitted:

1. The hydraulic flow calculations shall be included with the submittal. The use of computer programs is recommended for calculating engineered systems. Complete input/output data should be shown, and sufficient details should be included to aid in the prompt verification of the calculations and nozzle selection.
2. An isometric sketch of the piping layout shall be provided with the submittal. Indicate on the sketch the size and length of pipe, type of pipe, elevation changes, and the location of reference points used in the calculations.

C. *Clean Agent Fire Suppression Systems*. Shall be designed and installed in accordance with the latest locally adopted editions of NFPA 12A, NFPA ~~2009~~2001, International Building Code, International Fire Code, and any applicable locally adopted amendments and rules.

3.2.21 Carbon Dioxide Systems

As a minimum, carbon dioxide systems shall be conceptually identified along with the design basis at the time of Building Permit Review. Carbon dioxide systems will be reviewed in their entirety prior to system installation. At least two (2) sets of shop drawings and specifications showing the following information shall be submitted to the Austin Fire Department for review:

A. Name of owner and/or occupant, address and type of system,

1. Total flooding system.
2. Local application system.
3. Hand hose line system.
4. Standpipe systems and mobile supply.

B. The hydraulic flow calculations shall be included with the submittal. The use of computer programs is recommended for calculating engineered systems. Complete input/output data should be shown, and sufficient details should be included to aid in the prompt verification of the calculations and nozzle selection.

C. An isometric sketch of the piping layout shall be provided with the submittal. Indicate on the sketch the size and length of pipe, type of pipe, elevation changes, and the location of reference points used in the calculations.

D. The minimum design percent-by-volume and volume factor shall be provided. The minimum and maximum temperatures expected in the space to be protected is also required.

E. Scaled plan and section views to confirm that the volume is within design limitations. Plans shall show the location of the CO₂ containers, control panel, detectors, manual releases and other essential components.

F. A bill of materials showing sufficient information on the various devices used in the installation so that the listing can be confirmed.

G. The discharge time.

H. An electrical plan showing the arrangement of the control unit, power supply, point-to-point electrical wiring of all equipment, ventilation interlocks, damper and door closure, equipment interlocks, time delays, and alarm devices, and if applicable, reserve power details with calculations to confirm sizing.

I. The sequence of events, indicating operation of system under normal and emergency conditions. The purpose and operation of system time delays and aborts should be documented and should meet the requirements of this guide. The sequence of events shall be in a format suitable for posting in the protected area.

J. City of Austin building permit related tracking number when applicable. This can be the plan review tracking number (PR number) or the building permit number (BP number).

JK. Supply sufficient information to evaluate the following environmental factors:

1. Ventilation equipment and its operation.
2. Combustible loading.
3. Construction materials.
4. Presence of sprinklers.
5. Protective signaling service availability.
6. The tightness of the room.

KL. Carbon dioxide systems shall be designed and installed in accordance with the latest locally adopted editions of NFPA 12, International Building Code, International Fire Code and any applicable locally adopted amendments and rules.

3.2.22 Dry/Wet Chemical Systems

As a minimum, wet or dry chemical systems shall be conceptually identified along with the design basis at the time of Building Permit Review. With the exception of commercial cooking protection systems installed in accordance with their listing, dry and wet chemical systems will be reviewed in their entirety prior to system installation. For a review to take place, the following information shall be submitted to the City of Austin Fire Department:

- A. Description of the type of system and its intended operation.
- B. Description of the hazard to be protected.
- C. Two (2) complete sets of contractor's prints/plans showing the following information:
 1. Name of the owner and/or occupant.
 2. Type of dry or wet chemical to be used.
 3. Design criteria detailing the amount of dry or wet chemical agent required.

4. Type, size, location and arrangement of storage container(s).
5. Type, location and flow rate of each nozzle.
6. Type, size, schedule, location, arrangement support, equivalent lengths and pressure ratings of all pipe, fittings and hose.
7. Type, location, arrangement and function of all associated detection devices, operating devices, auxiliary equipment and electrical circuitry.
8. Detailed explanation of any special features.
9. Architectural details of equipment or space being protected.

10. City of Austin building permit related tracking number when applicable. This can be the plan review tracking number (PR number) or the building permit number (BP number).

D. Calculations. Complete set of calculations shall be submitted for review and approval, if applicable. Calculations shall include volumetric considerations, container pressure, quantity of agent required, pressure losses due to friction, etc.

E. Dry and wet chemical systems shall be designed in accordance with the latest locally adopted editions of NFPA 17 and NFPA 17A respectively, the International Building Code, the International Fire Code and any applicable locally adopted amendments and rules.

3.2.23 Foam System

As a minimum, foam systems shall be conceptually identified along with the design basis at the time of Building Permit Review. Foam systems will be reviewed in their entirety prior to system installation.

When foam sprinklers are to be installed, documentation that the submittal includes all of the required information must be included using the applicable AFD completeness checklists available online at <http://www.austintexas.gov/departments/fire>. For a review to take place, the following information shall be submitted to the City of Austin Fire Department:

- A. Description of the type of system and its intended operation.
- B. Description of the hazard to be protected.
- C. Two (2) complete sets of contractor's prints/plans showing the following information:
 1. Name of the owner and/or occupant.
 2. Type and percentage of foam concentrate to be used.
 3. Required solution application rates.
 4. Water demand requirements for the foam system.
 5. Calculations detailing the amount of foam concentrate required.
 6. Hydraulic calculations for all pipe and hose systems.

7. Type, location, arrangement and function detection devices, operating devices, generators, pumps, discharge outlets, auxiliary equipment and electrical circuitry.
8. Detailed description of any special features.
9. Detailed data describing pumps, drives, controllers, power supply, fittings, suction and discharge connections and suction conditions.
10. Foam expansion ratios.
11. Type, size and location of all hose streams and monitors. Indicate the type of thread utilized for hose connections.
12. Type, size and location of all foam generators, applicators, forced foam makers and foam chambers.
13. Type, size and location of all foam metering, check and control valves.
14. Type, size and location of concentrate container(s) including dip tubes and educators.
15. Type, size, schedule, location, arrangement, support, equivalent lengths and pressure ratings of all pipe and fittings.
16. Architectural details of equipment or space being protected.
17. City of Austin building permit related tracking number. This can be the plan review tracking number (PR number) or the building permit number (BP number).

D. Water Supply Information. Available water supply data including a graph which compares the system demand to the available supply. Information shall be included on the size of the city or district water main(s) and whether the main(s) is/are a dead-end or circulating type. If the main(s) is/are a dead-end type, provide the distance to the nearest circulating main and the size of that circulating main. Also describe in detail any other source of water supply. All water flow test data shall be shown on the plans and shall include the following information:

1. Location and elevation of static and residual test gauge with relation to the project reference point.
2. Flow location.
3. Static pressure, (pounds per square inch).
4. Residual pressure, (pounds per square inch).
5. Pitot pressure, (pounds per square inch).
6. Flow, (gallons per minute).
7. Date.
8. Time.
9. Test conducted by.

10. List of equipment utilized in test.

E. Calculations. Complete set of calculations shall be submitted for review and approval. Calculations shall include volumetric considerations, quantity of agent required, pressure losses due to friction, etc.

F. Foam systems shall be designed in accordance with the latest locally adopted edition NFPA 11, NFPA 11A, International Fire Code, International Building Code, and any applicable locally adopted amendments and rules.

3.2.24 Controlled Access/Egress Systems

Controlled access/egress systems shall be identified for the Building Permit Review. Electric Strikes and Electric Locksets installed in accordance with the International Building Code which allow free egress at all times, will generally not require a plan submittal, review or inspection, unless installed in a high rise stairwell. All exit doors must permit egress without the use of a key or any special knowledge, in accordance with the International Building Code (IBC) as amended by the City of Austin (note: IBC Sec. 1008.1.4.4 has been deleted per City of Austin Amendment, the red button exits systems were no longer allowed after May 1994). Doors which utilize Listed crash bars (panic hardware), Listed touch sensor bars or other Listed door mounted hardware to release a magnetic lock **by physically breaking the circuit at the door**, in a building which is compliance with the Building Code, will be acceptable subject to the requirements detailed below. A fire alarm or automatic sprinkler system will not be required for buildings with access control systems unless otherwise required by the Building or Fire Code. Delayed Egress systems must be installed per IBC Section 1008.1.9.6 or 1008.1.9.7. All wiring must be in accordance with the National Electrical Code, and any other applicable code.

The installation of magnetic locks or delayed egress systems will require plans approved by, and an inspection/test by the Austin Fire Department. Review turn-around time is 5 working days, or reviews may be done by previously scheduled appointment, if reviewer time permits. Plans submittals shall be as follows (Minimum of 2 complete sets must be submitted, one will be kept for AFD file, one will be returned to contractor and must be on site during the inspection):

- a. Floor plan showing available egress pathways, the location of the proposed locks, and indicating any fire rated walls.
- b. Equipment list and cut sheets for all components involved in locking the doors, with UL Listing shown.
- c. For Maglocks, a wiring diagram showing how the power is physically interrupted at the door, independent of the security system software (redundant REX unlocking via security system is allowed).
- d. Sequence of operation indicating how door is unlocked. For **delayed egress systems**, all requirements of IBC Sec. 1008.1.9.6 must be addressed in the sequence of operation.
- e. Name, address and phone number of the installer.
- f. Name and address of the project.
- g. City of Austin building permit related tracking number. This can be the plan review tracking number (PR number) or the building permit number (BP number).

Controlled access/egress systems shall be designed and installed in accordance with latest locally adopted editions of the International Fire Code, International Building Code, and any applicable locally adopted amendments and rules.

3.2.25 Other Systems

For any systems not covered by the requirements listed in this section, the contractor shall submit sufficient information, calculations, two (2) sets of contractor plans/prints and specifications to properly identify all hazards, equipment and devices used and demonstrate that adequate protection shall be provided. The system shall be designed in accordance with local requirements and nationally recognized standards. The contractor shall contact the City of Austin Fire Department to determine if there are any specific local requirements pertaining to the type of system to be utilized.

APPENDIX F: FIRE CODE AMENDMENTS

The following Fire Code Amendments are an ordinance and not subject to the rules procedure. They are included for references only.

ORDINANCE NO. ~~20100624-142~~20130606-092

APPENDIX G: FIGURES AND DIAGRAMS

See the 900 Series of the City of Austin Standards