Carrollton Fire

Prevention Division

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Carrollton Fire Department Development Handbook Guide for Construction

Fire Prevention Division

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General

The goal of the Fire Prevention Division is to assist its customers in understanding our submittal, plan review and inspection process and policies, as they pertain to new construction and finish outs. Familiarity with and adherence to these guidelines can greatly assist you in compliance with local codes and ordinances, and aid in preparing for inspections.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

To expedite the plan review and inspection processes, please refer to the information listed below:

1. All contractors must register or be registered with the City of Carrollton Building Inspections Dept.
2. All Fire Protection Systems plan submittals must be accompanied by a copy of a Texas Department of Insurance License.
3. All calculations must be signed by a State Fire Marshal's Office Licensed Fire Protection Contractor or professional engineer.
5. All plans submitted must be stamped and signed by a State Fire Marshal's Office Licensed Fire Protection Contractor or professional engineer.
6. All inspections require a permit and a set of approved plans on the job site. Failure to have the approved drawings and permit on-site may result in a failed inspection and re-inspection fees.
7. The Fire Inspector will provide written results after each inspection.
8. The contractor is responsible for ensuring that the system(s) being installed or serviced is in compliance with all locally adopted codes – including, but not limited to the International Fire Code, NFPA Fire Codes, and City of Carrollton Ordinance 3181
9. Plans approved by the City of Carrollton, Fire Prevention Division give authorization for construction.
10. Final approvals are subject to field verification.
11. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
12 All installations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
13. All plan review and inspection process steps must be followed. Deviation from the requirements can result in delays and possible rejection of plans or inspection delays.

It is the goal of the Fire Prevention Division to complete your plan review within the shortest possible time. We strive to complete your plan review within three (3) to five (5) business days from receipt of the plan submittal package. Please be advised that revisions, changes, or an incomplete submittal package may delay your final plan approval.

Codes

We do not review plans for compliance with the Americans with Disabilities Act or the Texas Accessibility Standards. We do, however, review plans in accordance with the locally adopted codes. The City of Carrollton has adopted and amended the 2006 International Fire Code. The 2006 IFC does reference specific NFPA codes for additional guidance. Ordinance No. 3181, which adopted the 2006 IFC, is available upon request.

Below is a list of the most commonly referenced codes:

- International Fire Code, 2006 Edition
- International Building Code, 2006 Edition
- National Electrical Code, 2005 Edition
- NFPA 13, 2002 Edition
- NFPA 13R, 2002 Edition
- NFPA 13D, 2002 Edition
- NFPA 72, 2002 Edition

With the exception of the above-referenced codes, the most recent referenced code edition will be utilized.

Addressing and Suite Numbering

- The Fire Marshal will assign all addresses.
- Suite numbers will be issued by the Fire Marshal.
- A complete floor plan must be submitted for numbering.
- A copy will be kept in Fire Prevention and Building Inspections.

Finish-Out/Building Alteration

Tenant Finish-Out/Building Alteration plans consist of lease spaces within strip malls, warehouses, office buildings, or other construction in which only a portion or portions of the building is modified, altered, or otherwise changed. This typically includes office spaces, existing buildings, multiple occupancy spaces, and warehouses.

Tenant Finish-Out/Building Alterations are reviewed to determine compliance with Fire Department requirements as they relate to building construction and layout, fire department access, exiting and other issues as designated. These requirements can be found in the International Fire Code, as adopted and amended by City of Carrollton Ordinance 3181. In an effort to expedite the Fire Department's plan review process, please ensure the following list of items are incorporated into the proposed tenant finish-out plans. Please note that not all of the below requirements pertain to all submittals:

1. Is the building provided with an existing fire sprinkler system or fire alarm system?
2. Address must be legible from the street or fire lane and a color contrasting background. A minimum of 3" high numbers on suites and 10" on buildings.
3. Address must be provided at gas and electric meters and/or disconnecting means.
4. A floor plan shall be submitted to the Fire Marshal for suite number assignments.
5. Alphabetic suite numbers are not permitted.
6. Knox Box entry system may be required, with the box installed 5 to 6 feet above grade.
7. Storage of combustibles is not permitted within 18" clearance of the ceiling, for sprinklered occupancies.
8. All exit doors located in the means of egress that are capable of locking or latching shall be operable from the inside without the use of a key or any special knowledge or effort, or provided with approved panic hardware.
9. Arrangement of interior walls and/or drop ceiling may interfere with the operation of the fire sprinkler system.
10. Will any type of special protection system be required? (*i.e.,* ventilation, smoke dampers, fire alarm, fire sprinkler, kitchen hood, clean agent suppression or storage tank)
11. Additional criteria as required by the Fire Marshal.

Fire Apparatus Access Roads During Construction

- When fire apparatus access roads and water supplies for fire protection are required to be installed, such protection shall be installed and made serviceable prior to vertical construction, and shall remain serviceable during the time of construction.

- ***Striping*** – Fire apparatus access roads shall be marked by painted lines of red traffic paint six inches (6") in width to show the boundaries of the lane. The words "NO PARKING FIRE LANE" or "FIRE LANE NO PARKING" shall appear in four inch (4") white letters at 25 feet intervals on the red border markings along both sides of the fire lanes. Where a curb is available, the striping shall be on both the vertical and horizontal faces of the curb.

- ***Signs*** – Signs shall read, "NO PARKING FIRE LANE" or "FIRE LANE NO PARKING" and shall be 12" wide and 18" high. Signs shall be painted on a white background with letters and borders in red, using not less than 2" lettering. Signs shall be permanently affixed to a stationary post and the bottom of the sign shall be six feet, six inches (6'6") above finished grade. Signs shall be spaced not more than fifty feet (50') apart. Signs must be installed on permanent buildings or walls or as approved b the Fire Chief.

Fees and Permits

The City of Carrollton's Building Inspections Dept. shall collect the approved fees for inspections, certificates of occupancies, annual permits, the sale and storage of hazardous materials and other permits as required by the ordinances of the City of Carrollton.

Fire Prevention reviewed permit fees shall be $4.00 per $1,000.00 of evaluated work

The minimum cost of a permit shall be fifty dollars ($50.00) unless otherwise indicated in the approved fee schedules adopted by the city.

The Fire Marshal may request copies of bid documents or other items to verify the estimated cost of construction when calculating permit fees

Site Maintenance During Construction

Assigned addresses shall be posted on construction sites in a highly visible location facing the addressed street. The address shall be in place during the construction period of the project. Numbers shall be clearly marked and posted so as to be visible from the road.

- Exits and exit corridors are unobstructed during all phases of construction
- Adequate removal of construction debris shall be performed during all phases of construction
- Compressed gas cylinders are to be secured and properly marked
- Access roads, fire lanes and fire hydrants are to remain unobstructed at all times during construction
- Standpipe systems in high rise structures shall be maintained

System Tests

A minimum of twenty-four hours advance scheduling is required for the following tests. Written certification will be provided.

- Alarm test
- Carbon dioxide and dry chemical systems
- Smoke detection systems
- Fire sprinkler and standpipe systems (200 psi hydrostatic test for new system, 150 psi hydrostatic test for remodeled or an addition to existing systems).
- Commercial kitchen hood extinguishing system test
- Magnetic access control devices
- Under/Aboveground fuel tank and/or line test
- The Certificate of Occupancy is issued by the Building Official after all inspections are satisfactorily completed
- All system inspections and tests should be scheduled through the Carrollton Fire Department Fire Prevention Division at (972) 466-3210

Testing

- Newly installed sprinkler systems require a two (2) hour two hundred (200) psi hydrostatic test. The testing procedure for existing sprinkler systems is a two (2) hour one hundred fifty (150) psi hydrostatic test.
- If an existing system is extensively altered, the system shall be retested. The decision to retest a system shall be determined by the Carrollton Fire Marshal on a case-by-case basis.
- All sprinkler system valves shall be properly marked in accordance with N.F.P.A. 13.
- The hydrostatic acceptance test shall be witnessed and approved by a member of the Carrollton Fire Department Fire Prevention Division.
- Sprinkler piping and hangers shall not be covered and/or concealed by any means prior to being inspected and approved by the Carrollton Fire Prevention Division. ***This includes drop grid style ceilings***
- The underground supply line(s) to the sprinkler riser shall be hydrostatically tested and witnessed by the Carrollton Fire Prevention Division before the system is approved

Commercial Fire Sprinkler Underground - Submittal

These guidelines are to be followed when a business, facility or organization proposes to install an underground water supply serving an automatic fire sprinkler system, within the City of Carrollton.

All fire sprinkler system underground piping for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181

General Requirements

- All underground lines shall begin at the point of connection to the underground circulating public/private water main. A valve shall be provided at the point of connection such that the fire sprinkler underground service line can be isolated from public/private water distribution system.
- The Double Detector Check shall be installed in a vault in an easement per the City of Carrollton GDS.
- All underground lines shall terminate at the top of the spigot no more than 5 ft. inside the building.
- All ductile iron, retaining rods, and other non-plastic components shall be externally coated for corrosion and poly-wrapped.
- All contractors must be registered with the City of Carrollton Building Inspections Dept.
- Plan Review Application must accompany all submittals. Submittals will not be approved without an application.
- Minimum 6” line unless hydraulically proven.

(*Commercial Fire Sprinkler Underground cont.)*

- Each submittal shall have a completed:

    a. *Contractors Registration Form (unless previously registered)*
    b. *City of Carrollton Plan Review/Permit Application*
    c. *Copy of Contractors Texas Department of Insurance License*

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation.
- Final approvals are subject to field verification.
- Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- Installation, fabrication, or otherwise construction of the system is prohibited without approved plans and permit.
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the jobsite until final inspection.
- Submittals that do not conform to the minimum above requirements will not be approved.

Plan Submittal Requirements

- A copy of your State of Texas Fire Sprinkler Underground or General license is required.
- A “Wet” RME signature is required on all plans.
- Provide a minimum of three (3) sets of plans.
- Project name
- Project address
- A scaled copy of the ***approved*** Site Plan that indicate the location of all fire hydrants and fire lanes servicing the building or site. The size and type of building shall be clearly indicated on the plan.
- Size and location of all water supplies and/or water lines servicing the building or site.
- Flow test data, provided by the Carrollton Fire Department, shown on the plans.
- Size and type of all piping identified on the plans
- Location of all valves
- Location and size of all thrust blocks
- Thrust block details
- Detail of the spigot piece and/or and in-building riser turn
- Embedment detail
- Embedment material shall be No. 4 crushed stone
- Depth of bury. Minimum is 48 inches/4 feet.
- Vault/valve arrangement.
- Type of fittings/joints, methods of connection and rod size.
- Location and type of Fire Department Connection (FDC).
- Manufacturer’s data sheets for all components used in the project including manufacturer’s parameters and listing organizations approval.
- Location and type of backflow prevention
- Provide information on the transition stability of different types of piping (*e.g.,* transition from PVC to ductile iron, retainer glands).

Backflow Prevention

- All fire sprinkler systems are required to be provided with an approved method of backflow prevention.
- A double detector check, with ¾ inch bypass meter, is required. This assembly shall be constructed in a vault and located within an easement.
- A reduced pressure zone backflow prevention device is required on antifreeze systems.
- Assemblies shall be listed for fire protection use.

Residential Underground Requirements

1. Water supply will be allowed to be supplied off the domestic water line on the house side of the meter. Calculations shall be provided before installation verifying that adequate water supply pressure, volume, and line size is appropriate for required fire flow.

2. Separate plans for underground supply piping will not be required. Underground supply piping layout shall be included in aboveground plan submittals.

3. Back flow double detector check valves shall be permitted to be installed inside the dwelling unit on the fire sprinkler riser stack. Riser stack must be made accessible for testing and repair purposes (*i.e.,* access door). Contractor shall provide documentation ensuring proper backflow device is installed correctly per manufacturer's specifications, either vertical or horizontal. (Provide with aboveground plan submittal)

4. Plans and Permit for aboveground fire protection system shall be required for each dwelling unit. On units that are identical floor plans/fire protection systems and permitted at the same time only one plan set (minimum 3 copies) need to be submitted but a permit application shall be completed for each dwelling unit.

5. All residential fire protection systems shall comply with all City of Carrollton Adopted Codes and National Fire Protection Association Standards.

6. Applications for permit must be made and paid for in the Building Inspection Department. The Fire Department will review plans and make inspections for underground and aboveground fire protection systems.

Fire Sprinkler Underground - Inspection

Fire Sprinkler Underground Required Inspections

- Visual inspection of piping, thrust blocks, and vault
- Hydrostatic test
- Flush of completed underground system
- Fire Sprinkler Underground Final

Fire Sprinkler Underground Visual

- All underground piping and joints must be uncovered and exposed, with labeling of the pipe legible from grade.
- All thrust blocks will be visually inspected and must be uncovered and exposed to grade.
- Depth of bury of the pipe shall be measured and verified.
- All ductile iron, retaining rods, and other non-plastic components shall be externally coated for corrosion and poly-wrapped.
- Visual inspection shall be made by the installing contractor in the presence of a representative of the Carrollton Fire Department, Fire Prevention Division.

Fire Sprinkler Underground Hydrostatic Test

- All new fire service mains shall be tested hydrostatically at not less than 200 psi pressure for a minimum of two hours, or at 50 psi pressure in excess of the maximum static pressure when the maximum static pressure exceeds 150 psi.
- Any pressure loss of leaks will result in a failed inspection.
- Hydrostatic test shall be made by the installing contractor in the presence of a representative of Carrollton Fire Department, Fire Prevention Division (Or the Building Inspections Dept.).
- *It is not required that the hydrostatic test be completed prior to cover of the underground piping.* ***If a hydrostatic test is completed after the piping system is covered and fails, the piping will be required to be uncovered, regardless of cover.***

Fire Sprinkler Underground Flush

- All underground piping shall be thoroughly flushed ***prior to*** connecting to the system risers or other aboveground piping system(s).
- Flush shall be made by the installing contractor in the presence of a representative of Carrollton Fire Department, Fire Prevention Division.
- Proper methods and equipment to perform the flush must be used. All piping used to flush must be properly secured or retrained. Hoses may not be used.
- Field Fire Inspector must approve of flushing method and equipment.

Fire Sprinkler Systems – Aboveground

These guidelines are to be followed when a business, facility, or organization proposes to install or modify an automatic fire sprinkler system within the City of Carrollton; assist in the preparation of an automatic fire sprinkler system submittal for permit; and aid the contractor in being successful. These guidelines are not to be interpreted as containing all data required for proper design, installation, or approval. All automatic sprinkler systems for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181 and NFPA 13, 2007 Edition.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Carrollton Fire Department.

Installation Requirements

- An automatic sprinkler system shall be installed throughout all self-service storage facilities.
- An automatic system shall be installed throughout all buildings over 6,000 sq. ft., unless otherwise directed herein. For the purpose of this provision, firewalls shall not define separate buildings. I, H & R occupancies are sprinklered regardless of total square footage. A-2 occupancies shall be provided with an automatic sprinkler system over 5,000 sq. ft.
- Any building exceeding 6,000 sq. ft. that has an inside clear height in excess of 12 feet, making it possible to be used for storage in excess of 12 feet, shall be considered to be high-piled storage and shall comply with the provisions of this section. When a specific product cannot be identified, a fire protection system shall be installed for Class IV commodities, to the maximum pile height.
- Fire protection systems shall be designed with a 10 psi safety factor.
- Automatic Sprinkler System Room Access. Sprinkler system risers providing protection for buildings with multiple tenant spaces must be located in a ground floor room directly accessible from the exterior. The door must be labeled as the riser room. Buildings with single tenants may access the riser location from the interior of the building.
- Sprinkler systems for all strip retail centers, multiple tenant buildings, speculative warehouses, or any other multiple tenant building, regardless of ceiling height, shall be designed to provide a minimum of Ordinary Hazard Group 2 or Class IV commodities.
- All valves controlling the water supply for automatic sprinkler systems and water-flow switches on all sprinkler systems and standpipe systems, with the exception of fire department hose connections, shall be electrically supervised.
- Approved, supervised, indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.
- An approved, audible/visual device shall be connected to every automatic sprinkler system.
- An approved, weatherproof, audible/visual device shall be provided on the exterior of the building in an approved location. The location shall be above the Fire Department Connection (FDC). This device shall be a minimum of 75 candela.
- The time delay feature on the flow switch switches must be set to a delay of 30-90 seconds.
- The FDC must be within 100 ft. of a fire hydrant.
- The FDC shall be clear and unobstructed with a minimum of a 3 ft. clearance.

General Requirements

- The FDC shall be installed no higher than 48 in. above grade.
- Locking “Knox” caps are allowed.
- Inspector test connections, drains, and ball-drips shall be piped directly to the exterior.
- Riser rooms shall be permanently heated, and such heating appliances shall be hard-wired to the building electrical distribution system.
- All riser rooms shall be large enough to accommodate maintenance and testing activities, but shall be no smaller than 6 ft. by 6 ft.
- All inspectors’ test, ball-drips, and main-drains shall be piped directly to the outside of the building.
- At least one inspection test valve shall be located at the remote system area.
- Dry-system air compressors shall be hard-wired.
- Pre-action system solenoids shall be wired for alarm activation upon current loss.
- Faxed plans submittals will not be accepted.
- Each submittal shall have a completed:

    a. *Contractors Registration Form (unless previously registered)*
    b. *City of Carrollton Plan Review/Permit Application*
    c. *Copy of Contractor’s Texas Department of Insurance License*

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- Installation, fabrication or otherwise construction of the system is prohibited without approved plans and permit.
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division;
- All fire department inspection forms and permits shall be kept in a permit packet on the jobsite until final inspection.

Standpipes

- Standpipe systems shall be installed in accordance with the International Fire Code and NFPA 14. Manual dry standpipe systems shall be supervised with a minimum of 10 psig and a maximum of 40 psig air pressure with a high/low alarm.
- In addition to the requirements of IFC, Class I standpipes shall also be required on all occupancies in which the distance from accessible points for the Fire Department ingress to any point in the structure exceeds two hundred fifty feet (250’) along the route that a fire hose laid as measured from the fire lane. When required by this Code, standpipe connections shall be placed adjacent to all required exits to the structure and at two hundred foot (200’) intervals along major corridors thereafter.
- Hose valves shall be 2 ½-inch with a 1½-inch reducer with cap and chain.

Plan Submittal Requirements

- The plans will be reviewed based on the requirements in the International Fire Code and NFPA 13.
- A “Wet” PE or RME signature is required on the plans and hydraulic calculations. Plans shall be clear and legible and all sheets shall be in a common and appropriate scale (1/8” minimum). Submittals done on electrical, lighting or other “busy” plans are not acceptable.
- A minimum of three (3) sets of plans shall be submitted. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review. The following information shall be provided on the plans:

    a. Floor plan
    b. Square footage
    c. Location of doors
    d. Intended use of each room is identified
    e. North arrow provided
    f. Location of the Fire Department Connection (FDC)

- Occupancy classification
- Scope of Work
- Site plan to include all fire hydrants, fire lanes, fire department connections and the fire service lead-in
- Equipment List
- Hydraulic calculations for each design area including area of coverage per head, design density, and specific commodity protected.
- A minimum of one (1) set of data specifications sheets for all equipment shall be provided
- Specific materials in the specification booklet are to be identified by an arrow or highlighter
- A complete full-height cross section of the building
- Total area protected by each system
- Capacity of the dry system or antifreeze system
- Hydraulic node symbols and schedule
- Elevations of sprinkler lines and node points
- Hanger details.
- Hanger locations
- Sprinkler riser diagram
- Inspectors test connection detail
- Auxiliary drain details
- Size and location of hose stations
- Graphical scale
- Description of the design area
- Design density of each design area
- Clearly indicate each remote area
- Provide graphic representation of the water flow analysis
- Provide the water supply test information
- Provide notes to indicate the following
- Design code
- Responsible party with regards to freeze protection
- Provide a copy of your State of Texas State Fire Marshal’s Office license

(*Plan Submittal Requirements cont.)*

- The title block shall contain the following:

    a. Location of the installation
    b. Name and complete address of the business
    c. Name and complete address of the installing company
    d. Licensing information
    e. “Wet” signature of the RME
    f. Date
    g. Drawn by
- Authority Having Jurisdiction
- City of Carrollton Contractor Registration Number
- Scale
- A legend shall be provided to include:
    a. Symbol, sprinkler description, manufacturer, model number, and quantity for each device
    b. Pipe and fittings type
- See NFPA 13, 2007 Edition, Chapter 8 for additional plan submittal requirements.

Tenant Finish-Out/Building Alteration

These guidelines are to be followed when a business, facility or organization proposes to modify an existing automatic fire sprinkler system within the City of Carrollton. They will assist in the preparation of an automatic fire sprinkler system submittal for permit and aid the contractor in being successful. These guidelines are not to be interpreted as containing all data required for proper design, installation, or approval. All automatic sprinkler systems for the purposes of this guideline and any other guidelines or requirements of the Carrollton Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181 and NFPA 13. This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Installation Requirements

- Please see the Guidelines for Automatic Fire Sprinkler Systems. To expedite the plan review and inspection processes, please refer to the information listed below.

Plan Submittal Requirements

- Fax submittals will not be accepted.
- A “Wet” RME signature is required on at least one (1) set of plans.
- Hydraulic calculations will be required if the area(s) to be modified are within the original design area and/or the modifications proposed create a higher hazard classification as determined by the Fire Marshal.
- Plans shall be clear and legible and all sheets shall be in a common and appropriate scale.
- A minimum of three (3) sets of plans shall be submitted.
- Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review.
- A minimum of one (1) set of data specifications sheets for all equipment used shall be provided.
- A minimum of one (1) set of hydraulic calculations shall be provided. The following information shall be provided on the plans.
- Floor plan
- Square footage
- Intended use of each room is identified
- Occupancy classification and type of hazard (*i.e.,* light, ordinary)
- Scope of Work.
- Site plan to indicate where, in the building, the modification is to be performed. Cloud area or otherwise indicate.
- Type of sprinkler heads and area of coverage per sprinkler head
- Elevation of sprinkler lines and node points
- Hanger details
- Hanger locations
- Provide notes to indicate the following design standards

- The title block shall contain the following:

    a. Location of the installation
    b. Name and complete address of the business
    c. Name and complete address of the installing company
    d. Licensing information
    e. Date
    f. Drawn by
    g. Authority Having Jurisdiction
    h. Scale

- An equipment legend shall be provided to include:

    a. Symbol, sprinkler description, manufacturer, model number, and quantity for each device
    b. Pipe and fittings type
    c. Indicate which sprinkler heads are new, existing and relocated
    d. Indicate what piping is new and existing

- See NFPA 13, 2007 Edition, Chapter 8 for additional plan submittal requirements.

(*Plan Submittal Requirements cont.)*

- Each submittal shall have a completed:

  a) Contractors Registration Form (unless previously registered)
  b) City of Carrollton Plan Review/Permit Application
  c) Copy of Contractors Texas Department of Insurance License

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- Installation, fabrication, or otherwise construction of the system is prohibited without approved plans and permit.
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the job site until final inspection.

Fire Alarm Systems

These guidelines are to be followed when a business, facility, or organization proposes to install of modify a fire alarm system within the City of Carrollton. All fire alarm systems for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181 and NFPA 72.

This guide does not replace nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Installation Requirements

- Fire alarm systems, new or replacement, serving 50 or more initiating devices shall be addressable.
- Fire alarm systems, new or replacement, serving 200 or more initiating devices, or 75 or more smoke detectors, shall be analog intelligent addressable.
- Manual alarm actuating devices (pull stations) shall be an approved double action type.
- All fire alarm systems shall be installed in such a manner that the failure of any single alarm-actuating or alarm indicating device will not interfere with the normal operation of any other such devices. All systems shall be Class "A" wired with a minimum of six feet separation between supply and return loops. IDC - Class "A" style - D – SLC Class "A" Style 6 - notification Class "B" Style Y.'
- All alarms are required to be transmitted to the U.L. Listed Central Station monitoring company with the device(s) designation and location, or addressable device identification. This is commonly referred to as CONTACT ID. (See *Fire Sprinkler Fire Alarm Monitoring Guidelines* for additional information).

(*Installation Requirements cont*.)

- An exterior audible and visible notification device shall be provided on the exterior of the building and shall be located above the Fire Department Connection. The notification device shall operate on a water flow alarm only, shall be non-silence able and shall continue to flash after the panel is silenced on the condition the alarm was a water flow alarm only. The notification device shall be wired from the fire alarm control panel as a latching circuit.
- Hard-wired systems shall be zoned by device type (*e.g.,* water flow, smoke, heat, manual pull, or fixed extinguishing system) per floor. Addressable or analog systems shall show address numbers on the plans and provide a detail list of address verbiage for approval.
- Primary power shall be from a dedicated circuit, which is listed on the approved building electrical plans.
- Requirements for high-rise (55 ft.) and emergency voice/alarm evacuation shall be found in Ordinance No. 3181
- Fire pumps shall be monitored for “loss of power”, “phase reversal” and “pump running” conditions on distinct circuits.
- All systems and circuits shall be supervised.
- When the fire alarm control panel is not located at the main entrance, a remote annunciator shall be located at the entrance.
- Systems shall be re-settable without any special knowledge or the use of an access code.
- Addressable/analog intelligent systems shall contain a history file of the past 100 events.
- Duct detectors may be supervisory.
- An adequate number of fire alarm notification devices shall be provided such that a minimum sound level 15 dbl above average ambient will be achieved.
- All fire alarm equipment shall be listed for its intended purpose.
- The fire alarm control panel shall be listed and compatible with all devices and capable of delivering all required signals.
- Fire alarm systems shall be installed only by companies and individuals licensed by the State of Texas State Fire Marshal’s Office.
- *Initiating Circuits:* Water flow alarms shall be programmed non-silence able.
- The exterior horn/strobe shall operate on water flow alarm only.
- *Notification Circuits:* The exterior notification devices shall be non-silence able. The strobe only shall continue to flash after the panel is silenced on the condition the alarm was a water flow alarm only.
- The notification devices shall be wired from the fire alarm control panel as a latching circuit.
- Each submittal shall have a completed:

    a. *Contractors Registration Form (unless previously registered)*
    b. *Carrollton Fire Department Plan Review/Permit Application*
    c. *Copy of Contractors Texas Department of Insurance License*

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.

(*Installation Requirements cont*.)

- Installation, fabrication or otherwise construction of the system is prohibited without approved plans and permit.
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the job site until final inspection.

Plan Submittal Requirements

- A “Wet” APS signature is required on all plan drawings and calculations.
- The plans will be reviewed based on the requirements in the International Fire Code and NFPA 72, 2007 Edition.
- Plans shall be clear and legible and all sheets shall be in a common and appropriate scale.
- Plans shall include interior walls and rooms. Ceiling tiles shall not be shown on the drawings.
- A minimum of three (3) sets of plans shall be submitted. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review. The following information shall be provided on the plans:

    a. North arrow
    b. Floor plan
    c. Building permit number
    d. Project name
    e. Project address
    f. Device location
    g. Site map inset
    h. Type of device
    i. Provide a “point-to-point” wiring configuration
    j. Fire alarm control panel
    k. Annunciators
    l. Square footage
    m. Location of doors
    n. Intended use of each room
    o. Location of all air handling units
    p. Show location of all fire sprinkler risers, flow switches, tamper switches, and fire pumps (*if equipped*)
    q. Notification devices shall indicate candela rating
    r. Heat detectors shall indicate temperature rating
    s. Indicate the length of wiring between devices

- The notification device wiring shall be shown different than the initiating device wiring. When necessary, they shall be provided on different plan drawings.
- Scope of Work
- Sequence of Operations in matrix format
- Equipment List
- Contact ID/Address table

(*Plan Submittal Requirements cont*.)

- Specification booklet shall contain the following:

    a. A minimum of one (1) set of data specifications sheets for all devices and equipment shall be provided
    b. Listing of the system design, operation and reset functions
    c. Specific materials in the specification booklet are to be identified by an arrow or highlighter
    d. Battery discharge curves
    e. Wire specifications
    f. Addressable device list
    g. Type of primary power and secondary power (*i.e.,* size and number of batteries to be provided)

- Device mounting height diagrams
- Voltage drop calculations provided. Shall clearly indicate each notification device and wire length.
- Battery calculations to include Standby and Alarm
- The notes shall clearly indicate that the initiating circuit wiring shall be Class A.
- Identification of the type of conduit used, if any
- Identification on the gauge and type of wire used
- Notes shall identify the following:

    a. Authority Having Jurisdiction
    b. Design in accordance with the International Fire Code and NFPA 72
    c. Duct detectors may sound supervisory only - not a general alarm
    d. Primary power to be a dedicated circuit

- The use of each room is identified on the plans.
- The title block shall contain the following:

    a. Location of the installation
    b. Name and complete address of the business
    c. Name and complete address of the installing company
    d. Licensing information
    e. “Wet” signature of the APS
    f. Date
    g. Drawn by
    h. Authority Having Jurisdiction.

- The riser diagram shall include all devices as they are shown on the plans, or wired.
- A legend shall be provided to include:

    a. All devices shown on plans
    b. Total number of devices of each type
    c. Symbol, device description, manufacturer, model number, and quantity for each device

- 4 Device address numbers provided for addressable/analog intelligent systems.

Fire Alarm/Fire Sprinkler Monitoring

Operational Guidelines

These guidelines are to be followed when a building, or facility, within the City of Carrollton, is provided with an approved, automatic fire sprinkler system that shall be required to be monitored. All fire sprinkler system and fire alarms for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181

Fire Alarm/Sprinkler System Monitoring/Operational Guidelines

- All valves controlling the water supply for automatic sprinkler systems and water-flow switches on all sprinkler systems and standpipe systems, with the exception of fire department hose connections, shall be electrically supervised.
- Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.
- Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station listed by Underwriters Laboratories, or when approved by the code official, at a constantly attended location.
- An approved, audible/visual device shall be connected to every automatic sprinkler system.
- A single weatherproof, audible/visual device shall be provided on the exterior of the building in an approved location. The location shall be above the Fire Department Connection (FDC). This device shall be a minimum of 75 candela.
- The time delay feature on the waterflow switch switches must be set to a delay of 60 seconds.
- *Initiating Circuits:* Waterflow alarms shall be programmed non-silence-able.
- The exterior horn/strobe shall operate on waterflow alarm only.
- *Notification Circuits:* The exterior notification devices shall be non-silence-able. The strobe only shall continue to flash after the panel is silenced on the condition the alarm was a waterflow alarm only.
- Duct detectors may alarm supervisory only.
- Supervisory signals shall be transmitted to the monitoring company.
- Fire alarm systems, new or replacement, serving 50 or more initiating devices shall be addressable.
- Fire alarm systems, new or replacement, serving 200 or more initiating devices, or 75 or more smoke detectors, shall be analog intelligent addressable.
- Requirements for high-rise (55 ft.) and emergency voice/alarm evacuation shall be found in Ordinance No. 3181.
- Fire pumps shall be monitored for “loss of power”, “phase reversal” and “pump running” conditions on distinct circuits.
- Alarms shall not be permitted to be transmitted as a “General Alarm” or “Zone” condition. This information must be in turn, transmitted to the Carrollton 911 Dispatch Center, with correct designation.

Commercial Kitchen Suppression Systems

These guidelines are to be followed when a business, facility or organization proposes to perform cooking operations that will involve grease-laden vapors, within the City of Carrollton. This guideline identifies protection for cooking surfaces which include; deep fat fryers, griddles, upright broilers, charbroilers, range tops and grills, open face ovens, salamanders, cheese melters, woks, open face pizza ovens, and other similar equipment. The plenum space within the hood, above the filters, and exhaust ducts servicing the hood shall also be protected. All commercial cooking operations for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181, NFPA 17 and NFPA 17A.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Installation Requirements

- The piping shall be rigidly supported to prevent excessive movement and shall be protected from mechanical or other damage.
- Both a manual and automatic means of activation shall be provided. A minimum of one manual activation pull station shall be provided in the path of egress, and shall be located no more than five feet above the floor. The manual actuation device shall be located a minimum of 10 feet and a maximum of 20 feet from the kitchen exhaust system.
- Where multiple manual actuators are installed for protection of separate extinguishing systems, they shall be clearly identified as to the hood being protected.
- Distinctive audible and/or visual alarms shall be provided to indicate system operation and activation. Specifically, an audible/visual notification device shall be provided to indicate system operation, requiring personnel attention and system recharge.
- The fire suppression system shall be interconnected to the building fire alarm system. Activation of the Kitchen Hood Fire Suppression System shall cause the fire alarm to activate throughout the building.
- Activation of the fire suppression system shall automatically shut off the fuel supply, ventilation controls if required, fans, and any other equipment necessary. Shutoff valves and switches shall be of the types that require a manual action to reset.
- When a building fire alarm system is provided, notification of the activation of the fire suppression system shall transmit Contact ID and conform to the *Fire Alarm Monitoring Guidelines*.
- A Type-K type portable fire extinguisher shall be installed at an approved location, and within 30 feet of commercial food heat-processing equipment, as measured along an unobstructed path of travel.
- Pre-engineering fire suppression systems shall be installed only by companies and individuals licensed by the State of Texas State Fire Marshal's Office.

Plan Submittal Requirements

- The plans will be reviewed based on the requirements in the International Fire Code, and NFPA 17A.
- A “Wet” FEL signature is required.
- A minimum of three (3) sets of plans shall be submitted. Plans shall contain sufficient detail to enable the plan reviewer to accomplish a complete review. The following information shall be provided on the plans:

    a. Indicated scale or suitable dimensions
    b. Include manufacturer’s data sheets
    c. Include hood dimensions
    d. Include duct perimeter
    e. Include appliance dimensions
    f. Include piping schematic
    g. Include floor plans
    h. Indicate nozzle type and number
    i. Indicate the location and temperature of the fusible links

- Scope of Work
- A minimum of one (1) set of specifications shall be provided
- Equipment List
- Plans shall indicate the interconnection to the building fire alarm system
- Plans shall indicate the interconnection to the fuel supply shutoff and indicate the type of fuel supply.
- The title block shall contain the following:

    a. Location of the installation
    b. Name and complete address of the business
    c. Name and complete address of the installing company
    d. Licensing information
    e. “Wet” signature of the ECR, EPL, FEL

- Provide a copy of your State of Texas State Fire Marshal’s Office license
- Each submittal shall have a completed:

    a. Contractors Registration Form (unless previously registered)
    b. City of Carrollton Plan Review/Permit Application
    c. Copy of Contractors Texas Department of Insurance License

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- Installation, fabrication or otherwise construction of the system is prohibited without approved plans and permit.
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the job site until final inspection.

Aboveground Storage Tanks

These guidelines are to be followed when an aboveground storage tank is moved, installed, or otherwise added, within the City of Carrollton. All aboveground storage tank requirements for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Aboveground Storage Tank Requirements

- Tanks must be installed by a licensed or approved aboveground storage tank installer.
- Approved flame arrestors and venting devices shall be installed in the all vent lines.
- The tank(s) shall be provided with secondary containment. All tanks must meet or exceed UL 142.
- All tank(s), 250 gallons or greater, must meet, or exceed UL 2085.
- When the installation location may be subject to vehicular impact, bollards designed IAW IFC shall be installed.
- The tank must display the UL Listed placard.
- A leak detection system must be installed, equipped with on-site audible and/or visual warning devices, as approved by IFC 2006 and NFPA 30.
- A spill container having a capacity of not less than 5 gallons shall be provided at each fill connection.
- An overfill prevention system shall be provided for each tank to prevent being filled in excess of 95% capacity. The system must meet the requirements of IFC.
- During fill operation, the system shall:

    a. Provide an independent means of notifying the person filling that the fluid level has reached 90 percent of tank capacity by providing a tank level gauge marked at 90 percent of tank capacity, or other approved means.
    b. Automatically shut off the flow of fuel to the tank when the quantity reaches 95 percent of tank capacity.
    c. Reduce the flow rate to not more than 15 gallons per minute so that at the reduced flow rate, the tank will not overflow for 30 minutes, and automatically shut off flow into the tank so that none of the fittings on the top of the tank are exposed to product because of overfilling.

- The tank fill connection shall be provided with a means for making a direct connection to the tank's vehicle fuel delivery hose so that no fuel is exposed to the open air during the filing operation.
- Anti-siphon devices shall be installed in each pipe connected to the AST, where the piping extends below the level of the tank.
- Emergency shutoffs shall be provided during filling and dispensing operations.
- Relief valves shall be provided.
- Pump dispensing devices shall be equipped with vapor-recovery connections.

(*Above Ground Storage Tank Requirements cont*.)

- Appropriate labeling and signs in accordance with International Fire Code must be provided:
    a. A permanent sign shall be placed at the fill point for the tank, documenting the filling procedure and tank calibration chart.
    b. "Smoking or Open Flames Prohibited".
    c. An approved emergency procedures sign IAW IFC.
    d. A permanent sign indicating that when filling the tank, parking is prohibited in the fire lane.
    e. A placard specifically identifying the material therein. The placard shall be IAW NFPA 704.
- Dispensing locations shall limit fuel delivery to 25 gallons and require a manual action to resume, IAW IFC.

Any additional requirements of NFPA 30 and/or IFC Chapter 34, must also be met. To expedite the plan review and inspection processes, please refer to the information listed below.

Plan Submittal Requirements

- The submittal package must include all above requirements and such requirements shall be identified in the submittal package.
- Provide a written description of the operation of the tank.
- Site plan drawings of the installation location and layout to include:
    a. Primary and emergency power hookups (if provided)
    b. All buildings and structures
    c. Fire lanes and fire hydrants
    d. Location(s) of other dispensing locations (if remote) and other tanks (if provided).
- A full equipment listing of all tanks, piping, valves, and other equipment.
- Manufacturer documentation for all parts and materials used in the project. This is to include the pumps, relief valves, and tank.
- Plan drawings to include the above requirements shall be submitted for review and approval, **PRIOR** to installation.
- Plan drawings shall show both plan view, section view, and other pertinent information.
- Plan drawings shall be generated by the installing company, and shall not be copied and marked according to installation.
- Provide documentation of tank testing and ability to hold a vacuum. This is in addition to any testing required by the Fire Department.
- Each submittal shall have a completed:
    a. Contractors Registration Form (unless previously registered)
    b. Carrollton Fire Department Plan Review/Permit Application
    c. Copy of Contractors Texas Department of Insurance License
- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- *No aboveground storage tank(s) or associated equipment may be installed, located, or otherwise manipulated on the site until a complete plan submittal is reviewed and accepted, and a AST Permit is issued for the location.*
- All installations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the job site until final Inspection.

Underground Storage Tanks

These guidelines are to be followed when an underground storage tank is moved, installed, or otherwise added, within the City of Carrollton City Limits. All underground storage tank requirements for the purposes of this guideline and any other guidelines or requirements of the Carrollton Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton Ordinance No. 3181.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Underground Storage Tank Requirements

- The tank must be installed by a TECQ licensed underground storage tank installer.
- Approved flame arrestors and venting devices shall be installed in the vent lines. Emergency venting shall meet the requirements of NFPA 30 and IFC Chapter 34.
- *Secondary containment.* An approved method of secondary containment shall be provided for underground tank and piping systems.
- The tank must display the UL Listed placard.
- A leak detection system must be installed and provided with approved vapor and liquid detection, equipped with on-site audible and/or visual warning devices with battery backup, as approved by IFC 2006 and NFPA 30.
- A spill container having a capacity of not less than 5 gallons shall be provided at each fill connection.
- An overfill prevention system shall be provided for each tank to prevent being filled in excess of 95% capacity. The system must meet the requirements of IFC.
- During fill operation, the system shall:
    a. Provide an independent means of notifying the person filling that the fluid level has reached 90 percent of tank capacity by providing a tank level gauge marked at 90 percent of tank capacity, or other approved means.
    b. Automatically shut off the flow of fuel to the tank when the quantity reaches 95 percent of tank capacity.
    c. Reduce the flow rate to not more than 15 gallons per minute so that at the reduced flow rate, the tank will not overflow for 30 minutes, and automatically shut off flow into the tank so that none of the fittings on the top of the tank are exposed to product because of overfilling.
- *Leak detection.* Underground storage tank systems shall be provided with an approved method of leak detection from any component of the system that is designed and installed in accordance with NFPA 30 and as specified by IFC.
- *Dry Sumps*. Approved sampling tubes of a minimum 6 inches in diameter shall be installed in the backfill material of each underground flammable or combustible liquid storage tank. The tubes shall extend from a point 12 inches below the average grade of the excavation to ground level and shall be provided with suitable surface access caps. Each tank site shall provide a sampling sump at the corners of the excavation with a minimum of 4 sumps. Sampling tubes shall be placed in the product line excavation within 10 feet of the tank excavation and one every 50 feet routed along the product lines towards the dispensers, a minimum of two are required.

(*Underground Storage Tank Requirements cont.)*

- The tank fill connection shall be provided with a means for making a direct connection to the tank's vehicle fuel delivery hose so that no fuel is exposed to the open air during the filing operation.
- A permanent sign shall be placed at the fill point for the tank, documenting the filling procedure and tank calibration chart.
- Anti-siphon devices shall be installed in each pipe connected to the UST, where the piping extends below the level of the tank.
- Emergency shutoffs shall be provided during filling and dispensing operations.
- Relief valves, both emergency and normal, shall be provided and shall normally be in the closed position.
- Pump dispensing devices shall be equipped with vapor-recovery connections.
- Thrust blocks, safety straps/deadman's or other suitable means of restraint must be installed for each underground storage tank.
- Thrust blocks, safety straps/deadman's or other suitable means of restraint must be installed at each change in direction of the pipe.
- Appropriate labeling and signs in accordance with IFC must be provided;
    a. A permanent sign shall be placed at the fill point for the tank, documenting the filling procedure and tank calibration chart.
    b. "Smoking or Open Flames Prohibited"
    c. An approved emergency procedures sign IAW IFC
    d. A permanent sign indicating that when filling the tank, parking is prohibited in the fire lane.
    e. A placard specifically identifying the material therein. The placard shall be IAW NFPA 704.
- Dispensing locations shall limit fuel delivery to 25 gallons and require a manual action to resume, IAW IFC
- Any additional requirements of NFPA 30 and/or IFC Chapter 34 shall also be met. To expedite the plan review and inspection processes, please refer to the information listed below.

Plan Submittal Requirements:

- The submittal package must include all above requirements and such requirements shall be identified in the submittal package.
- Provide a written description of the operation and contents of the tank(s) and any associated piping and/or system(s).
- Site plan drawings of the installation location and layout, to include:
    a. All buildings and structures
    b. Fire lanes and fire hydrants
    c. Location(s) of tanks, vent lines, underground product lines, leak detection, dry sumps, and dispensing locations
- A full equipment listing of all tanks, piping, valves, and other equipment
- Manufacturer documentation for all parts and materials used in the project; this is to include the pumps, relief valves, and tank.
- Plan drawings shall show the actual install layout, including all piping and pumps.
- Plan drawings shall show both plan view, section view, and other pertinent information.
- Plan drawings shall be generated by the installing company, and shall not be copied and marked according to installation.
- Provide documentation of tank testing and ability to hold a vacuum. This is in addition to any testing required by the Fire Department.
- ***No underground storage tank(s) or associated equipment may be installed, located, or otherwise manipulated on the site until a UST Permit is issued for the location.***

(Plan Submittal Requirements cont.)

- Each submittal shall have a completed:

    a. *Contractors Registration Form (unless previously registered)*
    b. *Carrollton Fire Department Plan Review/Permit Application*
    c. *Copy of Contractors Texas Commission on Environmental Quality License*

- Any additional requirements set for by the TECQ shall also be met.
- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- *No underground storage tank(s) or associated equipment may be installed, located, or otherwise manipulated on the site until a complete plan submittal is reviewed and accepted, and a UST Permit is issued for the location.*
- All installations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the job site until final inspection.

Access Control Systems

These guidelines are to be followed when a building or facility within the City of Carrollton is provided with an approved access controlled egress door for pedestrian traffic. All access control criteria for the purposes of this guideline shall conform to the International Fire Code as adopted and amended by the City of Carrollton Ordinance No. 3181.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Operational Requirements

- A sensor shall be provided on the egress side of the door arranged to detect an occupant approaching. The door shall be arranged to unlock by a signal from this sensor.
- A manual unlocking device shall be located within 5 feet of a secured door and clearly labeled “push to exit”. When operated, the doors shall remain unlocked for a minimum of 30 seconds.
- Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.
- Activation of the building automatic sprinkler system or fire detection system, if provided, shall automatically unlock the doors.
- If a full building smoke detection system is not provided, approved smoke detectors shall be provided on both the access and egress sides of doors and in a location approved by the AHJ and NFPA 72. Actuation of a smoke detector shall automatically unlock the door.
- Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.

Plan Review Submittal Requirements

- Provide a written description of the operation of the Access Control/Egress Control System in normal, loss of power, activation of a fire protection system and manual modes
- Drawings detailing the installation location and layout, including all hookups/integration into building systems (i.e. fire alarm) and wiring
- Submittal shall include a full floor plan for the facility
- A full equipment listing
- Manufacturer documentation for all parts and materials used in the project
- Each submittal shall have a completed:

  a. *Contractors Registration Form (unless previously registered)*
  b. *Carrollton Fire Department Plan Review/Permit Application*

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- Installation, fabrication or otherwise construction of the system is prohibited without approved plans and permit.
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.

Inspection Requirements

- *Magnetic-Lock/Push Bar Test:* Magnetic locks will be tested.
- *Backup Power Verification:* Test emergency backup power to the access control system, where provided.
- *Fail Safe Verification:* Loss of power, or function to that part of the access control system which locks the doors shall automatically unlock.
- *Connection to Fire Alarm System:* Activation of the building fire alarm or automatic sprinkler system, if provided, shall automatically unlock the doors. And remain unlocked until the fire alarm system is reset.
- *Manual Operation:* Manual operation of the access control system, independent of any automatic function, will be tested.
- *Egress:* Electric strike, or designated access doors shall be tested to verify free egress.

Access Control Gates

These guidelines are to be followed when a building, facility, residential subdivision, or multi-family dwelling units, within the City of Carrollton, is provided with an approved, entry and exit access control/security gate for vehicular traffic. All access control criteria for the purposes of this guideline and any other guidelines or requirements of the Fire Department shall conform to the International Fire Code, as adopted and amended by the City of Carrollton
Ordinance No. 3181.

This guide does not replace, nor supersede any adopted codes and/or ordinances adopted by the City of Carrollton, or determinations and positions of the Fire Chief or Fire Marshal.

Access Control/Security Gates Requirements

- The gate must be sized so as not to obstruct any portion of the fire lane, in any manner, when the gate is fully opened.
- Electrically controlled access gates must be open able with the Fire Department access key (Knox KS-3502 key switch with dust cover) while the gate is utilizing either primary or secondary power. The gate must stay open until the key switch is returned to normal operation.
- All gates obstructing fire department access, whether in the open or closed position, must be equipped with a means to move the gate to a full open position manually.
- Automatic, radio-controlled traffic control devices (3M Opticom, Firestobe, or equivalent), keyed to Carrollton Fire Department mobile transmitters, shall be provided on all automatic gates that obstruct a fire apparatus roads associated with an R-2 occupancy. As the emergency vehicle approaches the entrance, the gates shall open without the use of an access code, door opener or Knox key switch.
- Gates, in which operation is by manual means only, shall be acceptable. A means to open the gates shall be provided. To expedite the plan review and inspection processes, please refer to the information listed below.

Plan Submittal Requirements

- Provide a written description of the operation of the access control/security gates in normal, emergency, and manual modes
- Site plan drawings of the installation location and layout, including primary and emergency power hookups
- Equipment location drawings of the actual configuration of the access gate(s)
- A full equipment listing
- Manufacturer documentation for all parts and materials used in the project
- Plan drawings shall be generated by the installing company, and shall not be copied.
- Each submittal shall have a completed:

    a. *Contractors Registration Form (unless previously registered)*
    b. *City of Carrollton Plan Review/Permit Application*

- Plans approved by the City of Carrollton, Fire Prevention Division, give authorization for construction and/or operation. Final approvals are subject to field verification. Any approval issued by the Fire Prevention Division does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.
- Installation, fabrication or otherwise construction of the system is prohibited without approved plans and permit
- All installations and/or operations must concur with the approved plans. Any deviation from the approved plans requires a re-submittal to the Fire Prevention Division.
- All fire department inspection forms and permits shall be kept in a permit packet on the job site until final inspection.

Inspection Requirements

- Fire Lane Unobstructed
- Back-Up Power Verified
- Knox Key Switch Operation
- Manual Operation
- Opticom Sensor Operation

Inspection Requests and Procedures

The following guidelines shall be used when calling for inspection requests:

- All inspection requests shall be coordinated by dialing (972) 466-3210.
- ***Contact our office at least 24 hours in advance of the requested inspection date and time.***
- The following information must be provided when requesting an inspection:
- City of Carrollton issued permit number.
- Name of project.
- Address of project.
- Fire protection contractor's company name.
- Fire protection contractor contact name and telephone number.
- Type of inspection requested.
- Other information as required, or requested.
- A representative of the requesting company must be present at time of inspection.
- Permit must be kept on the jobsite and presented to the inspector upon request.
- FD approved, stamped, and signed plans must be kept on the job site and presented to the inspector upon request. Contractor shop drawings are not considered approved plans.

Required Inspections

Only those pertaining to your particular project will be required.

Fire Sprinkler Underground

- Hydrostatic Test
- Flush
- Visual
- Fire Sprinkler Underground Final

Fire Sprinkler Overhead

- Hydrostatic Test
- Visual
- Fire Sprinkler Final

Fire Alarm

- Audible Device Test
- Visual Device Test
- Initiating Device Test
- Waterflow Test
- Central Station Monitoring
- Device Address Test
- Visual
- Fire Alarm Final

Kitchen Hood

- Air Test
- Utility Shut-off Test
- Manual Pull Station
- Audible/Visual Notification
- Fire Alarm System Connection
- Kitchen Hood Final

Underground Storage Tank

- Line Test
- Anchors In Place
- Diking / Containment
- Leak Detection
- Dry Sumps
- Underground Final

Aboveground Storage Tank

- Line Test
- Tank Label Visible
- Diking/Containment
- Access Control Gates
- Fire Lane Unobstructed

The Inspection Process

The Fire Marshal and/or Fire Inspector may request additional inspections as needed.

Fire Sprinkler Underground

1. ***Hydrostatic Test***. The test will be at 200 psi for a **minimum** of two hours.
   Testing to be from the gate valve to the top of the spigot, no pressure drop or gain allowed.
2. ***Visual.*** All underground piping and joints must be uncovered and exposed, with labeling of the pipe legible from grade. All thrust blocks will be visually inspected and must be uncovered and exposed to grade.
3. ***Flush***. Upon completion of the underground hydrostatic test, the underground piping will be flushed, witnessed by the Fire Department. Pipe shall be covered to prevent movement. The flushing must be completed prior to stacking the riser to the overhead piping.
4. ***Fire Sprinkler Underground Final.*** Final Fire Department sign-off of completion of all inspections.

Fire Sprinkler Aboveground

1. **Do not stack the riser until the underground flushing has been completed**. Check Fire Sprinkler Underground permit for verification of completion.
2. ***Overhead Hydrostatic Test.*** Overhead piping will be visually inspected with all joints exposed and labeling of the pipe turned downward. The test will be at 200 psi for a **minimum** of two hours. No pressure drop or gain allowed.
   A hydrostatic test is required for all new installations.
   A hydrostatic test is required for all tenant finish-outs with twenty or more sprinkler heads added and/or relocated.
3. ***Visual.*** All overhead piping and joints must be uncovered and exposed, with labeling of the pipe legible from the floor. All hangers will be visually inspected and must be uncovered and exposed to the floor.
4. ***Riser Main Flush***. Upon completion of the overhead hydrostatic test, the overhead piping will be drained and witnessed by the Fire Department.
5. ***Fire Sprinkler Final.*** Final Fire Department sign-off at completion of all inspections.
   The inspection shall be conducted when all sheet rock and mill work is completed. The objective of this inspection is to verify that coverage is adequate after the initial hydrostatic test. This will give the Fire Department and the contractor(s) the opportunity to make any changes before there is a request for a C.O. Sprinkler heads must be clean and free from paint, construction debris, or other conditions that would affect the proper operation of the sprinkler heads.

Fire Alarm

1. ***Initiating Device****.* Test all smoke detectors and/or fire alarm initiating devices for Alarm and/or Standby conditions.
2. ***Waterflow****.* The waterflow alarm will be tested by opening the inspectors test connection. The time delay feature on the flow switch switches must be set to a minimum delay of 60 seconds.
3. ***Central Station Monitoring***. Alarms and/or trouble signals are required to be monitored by a UL listed Central Station. Standard response to contact Fire Department shall be within 3 minutes.
4. ***Device Address Test****.* All analog or addressable system will have all devices pulled and/or activated. The print out must comply with the devices that were pulled.
5. ***Visual.*** All devices, wiring, and location of devices will be checked for compliance to the approved plans.
6. ***Final****.* Final inspection.

Kitchen Hood

1. ***Air Test.*** The nozzles protecting the cooking appliance shall be tested with compressed air to simulate activation.
2. ***Utility Shut-off Test****.* All utilities connected to the protected cooking devices, shall have automatic shut-off valves.
3. ***Manual Pull Station Test***. Operation of the manual pull station shall bring about full system operation.
4. ***Audible/Visual Notification***. Audible and/or visual notification devices shall be tested.
5. ***Fire Alarm Connection.*** Automatic fire-extinguishing systems shall be monitored by the building fire alarm system in accordance with NFPA 72.
6. ***Final****.* Final inspection.

Underground Storage Tank

1. ***Line Test.*** An air pressure soap test shall be conducted to inspect for leaks at all connections points.
2. ***Anchors In Place****.* Anchors shall be in place to prevent tank movement.
3. ***Diking / Secondary Containment****.* Spill containment must be provided and will be evaluated for adequacy
4. ***Foundation****;* Verify tanks are on a stable and level surface
5. ***Leak Detection****.* Leak detection devices shall be inspected and tested to verify operability
6. ***Dry Sumps****.* Must be exposed to verify installation and proper location.
7. ***Final.*** Ensure that all tanks, lines etc. match the approved plans.

Aboveground Storage Tank

1. ***Line Test****.* An air pressure soap test shall be conducted to inspect for leaks.
2. ***Tank Label.*** *Visible*
3. ***Anchors In Place****.* Anchors shall be in place to hold tank in place.
4. ***Diking / Secondary Containment****.* Spill containment must be provided and will be evaluated for adequacy
5. ***Foundation****.* Verify tanks are on a stable and level surface
6. ***Leak Detection****.* Leak detection devices shall be inspected and tested to verify operability
7. **Traffic Protection**. Verify bollard placement if applicable
8. ***Final****.* Ensure that all tanks, lines etc. match the approved plans.

Certification of Occupancy Inspection

Business Owner

In order to assist the build owners and general contractors in receiving a Certificate of Occupancy for their business, the premises is inspected to identify fire related hazards and conditions. Listed below are the most commonly found fire code violations. The below listed items must be in compliance prior to making an appointment for Fire Department personnel to inspect the facility. An annual Fire Prevention Inspection will also be conducted at the business using these same guidelines.

Exterior Features

1) All fire lanes, striped per City of Carrollton standards, shall be completed and in working order prior to construction.
2) All fire lanes and access road are clear and unobstructed.
3) Fire hydrants shall be completed and in working order prior to construction.
4) No accumulation of waste material.
5) Fire Department Connection (FDC) unobstructed with brass caps in place, and within 100 ft. of a fire hydrant.
6) Address on front and rear exits shall be legible from the street and fire lane.
7) Address listing on electric and gas meters and/or disconnecting means.
8) Knox Box located at the main entrance and/or riser room.

General

1) Storage clearance: unsprinklered -24” to ceiling; sprinklered - 18” to sprinkler heads.
2) Sprinkler heads clear of paint / overspray.
3) Ceiling panels in place.
4) Clearance in front of electrical panel (36”).
5) Empty slots in electrical panels are filled.
6) Occupancy load posted.
7) Fire rated assemblies properly constructed and penetrations sealed.
8) Extension Cord / multiple adapter utilized per code.
9) Abatement of electrical hazards.
10) Mechanical/electrical/boiler rooms free from storage and combustibles.
11) Gasoline stored in proper location / container.
12) General housekeeping and precautions against fire.
13) Slots in electrical panels must be filled by blanks and all electrical receptacles have cover plates.
14) Wall and ceiling finishes shall be in accordance with the 2006 International Fire Code, Table 806.3, for all corridors, rooms and enclosed spaces. Field tests on interior finishes may be required.
15) The tenant separation wall/demising wall shall be a minimum of 1-hr fire rated construction.
16) All fire rated assemblies and fire doors intact.

Exits

1) Accessible means of egress.
2) Exits unlocked.
3) Exits are not blocked.
4) Exit lights operational.
5) Emergency lighting operational.
6) All exit doors located in the means of egress that are capable of locking or latching shall be operable from the inside without the use of a key, tool or any special knowledge or effort, or provided with approved panic hardware.

Fire Protection Equipment

1) Portable fire extinguisher serviced within 1 year or manufactured in current calendar year.
2) Minimum 2A-20BC fire extinguishers per 3000 sq. ft, with a maximum travel distance of 75 ft. from any point within the building.
3) Sprinkler system “Green Tagged”, in-service and deemed operational.
4) Alarm system “Green Tagged”, in-service and deemed operational.
5) Kitchen hood/spray booth system “Green Tagged”, in-service and deemed operational.
6) Other fire protection systems “Green Tagged”, in-service and deemed operational.
7) Approved plans and permits on-site.
8) All devices installed according to plans.
9) Fire protection equipment room(s), riser room, labeled and access provided.
10) Access control system/gates in-service and deemed operational.
11) Arrangement of interior walls and/or drop ceiling does not interfere with the operation of the fire sprinkler system.
12) Fire doors unblocked / operational.
13) Provide spare sprinklers and wedges in cabinet.
14) All fire department inspection forms and permits shall be kept in a permit packet on the job site until final CO inspection.