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TO: All Sprinkler Contractors, Underground Contractors and Sprinkler Inspectors

FROM: Tom Simler, Fire Marshal/Division Chief

DATE: September 23, 2009

SUBJECT: Requirements for Sprinkler System Installation

*** THIS DOCUMENT IS A GUIDE AND NOT AN ALL-INCLUSIVE LIST OF REQUIREMENTS FOR THE INSTALLATION OF A SPRINKLER SYSTEM***

I. Sprinkler Plans

A. Plan Review- (All reviews have specific checklists available at www.cobbfire.org)

- 1.) New Systems are reviewed by dropping plans off and waiting for reply. Three (3) copies of plans are required at a minimum.
- 2.) Tenant Improvements are reviewed by appointment. See **B.** for information needed to schedule an appointment. Three (3) copies of plans required.
- 3.) 8 Sprinklers or less can be submitted via fax machine if all work can be portrayed on an 8½" x 11". This is processed as a Limited Work Permit.

B. Tenant Improvements – When calling for a plan review appointment, the following information will be needed:

1. Is the review for an Addition, or Remodel?
2. What is the square footage of job?
3. Are the plans for the Shell Building or for a Tenant Space? (The Shell Building shall have a Sprinkler Release before a Tenant Space Sprinkler Release will be issued).
4. Complete name of job as listed on the Building Permit, along with correct Building Permit Number (Acworth, Cobb, Kennesaw or Powder Springs).
5. Complete street address including suite number, as listed on the Building Permit.
6. Type of Sprinkler System
7. Sprinkler Contractor company name

C. Temporary Starts – Will only be considered when a plan review has been performed and the required corrections are minimal. The Temporary Start will be issued via fax machine on the Limited Work Permit form. A plan review appointment shall be made at the time the Temporary Start request is approved. This appointment shall be within three (3) working days or first available.

Temporary Start Inspections – ONLY a Pipe Check Inspection will be scheduled until approved, stamped plans are on the jobsite.

II. Sprinkler Inspection Requests

- A. The sprinkler contractor shall be responsible for requesting ALL sprinkler inspections. Inspections shall be requested a minimum of one business day (prior to 4:00 p.m.) before the inspection is needed. To utilize the online inspection request visit www.cobbfire.org, select **Online Inspection Request** on the left-hand side, select **Sprinkler Inspection Request**, and fill out **ALL** applicable blocks. You will be sent a confirmation via email.

NOTE – Either the project superintendent or a sprinkler company representative shall be on-site to sign all inspection reports. If no representative is on-site, the inspection may not be conducted and a re-inspection fee may be assessed.

B. Underground Piping

1. Underground piping inspections shall be requested by the contractor a minimum of one day (prior to 4:00 p.m.) before the inspection is needed.
2. Approved stamped plans to be on-site.
3. All Joints, Bends, Valves, etc. shall be left uncovered for the inspection.
4. Items to be inspected:
 - a. Pipe must be 1'-0" below frost line (Minimum 3 feet of cover)
 - b. Pipe shall not be run under buildings. (Maximum 5 feet for stub-up)
 - c. Pipe ends shall not be left open.
 - d. All bolted joints shall be cleaned and thoroughly coated with asphalt or other corrosion-retardant material after installation. Joints and bolts shall not be encased in concrete.
 - e. PIV and applicable pipe
 - f. FDC and applicable pipe
 - g. Hydrants
 - h. All tees, plugs, caps, bends, and hydrant branches shall be restrained against movement (Thrust Blocks must be visible). *See Note Below
 - i. Properly completed Contractor's Material and Test Certificate for Private Fire Service Mains (Underground Test Certificate per NFPA 24).

FAILURE TO REQUEST UNDERGROUND PIPE INSPECTION SHALL BE CAUSE FOR THE PIPE TO BE UNCOVERED, REGARDLESS OF THE STAGE OF CONSTRUCTION, WHEN ORDERED BY THE FIRE MARSHAL'S REPRESENTATIVE.

* NOTE – NFPA 24
10.8 Methods of Restraining Fire Mains
10.8.2 Thrust blocks are satisfactory where soil is suitable. The thrust blocks shall be of a concrete mix not leaner than one part cement, two and one-half parts sand, and five parts stone. Thrust blocks shall be placed between <u>undisturbed</u> earth and the fitting to be restrained, and shall be of such bearing as to ensure adequate resistance to the thrust to be encountered. In general, thrust blocks shall be so placed that the <u>joints will be accessible for inspection and repair.</u>
10.8.3 Pipe clamps and tie rods, thrust blocks, locked mechanical or push-on joints, mechanical joints utilizing set screw retainer glands, or other approved methods or devices shall be used. The type of pipe, soil, conditions, and available space determine the method.

C. Pipe Check – The Welding Form shall be completed by the pipe fabricating company and can be accepted in lieu of welder’s marks only, and shall be presented to the inspector at the time of the pipe inspection. The inspectors shall inspect all other aspects of threaded and welded pipe. Pipe checks shall be performed on all jobs installing new pipe. This inspection is necessitated due to excess slag being found in pipe, pipe bent by stamp machine, holes not cut out, severe rust (corrosion), and pipe not reamed.

NOTE – Approved stamped plans must be on site. (Except Temporary Starts)

D. Ceiling Cover

1. Approved stamped plans must be on-site.
2. Prior to any ceiling material being installed (except ceiling grid)
3. Pipe hangers installed properly (attached correctly, spaced properly, not bent)
4. Nothing attached to sprinkler piping or hangers
5. Heads turned properly (up/down)
6. Head spacing correct

E. Sprinkler System Release (Final)

1. Approved stamped plans on-site
2. Site Supervision Form
3. Contractor’s Material and Test Certificate for Aboveground and Underground Piping (Aboveground and Underground Test Certificate)
4. Ceiling installed
5. All building appurtenances installed
6. All construction and painting complete
7. Escutcheons installed
8. Head spacing, damage, paint, no tape
9. Same type heads as shown on plans
10. Water flow alarm tests via inspectors test (120V Electric Bell, Fire Alarm connection-If applicable)
11. Flow test
12. Pump test
13. Standpipe flow test (Automatic & Manual Wet)
14. PRV’s set and verified (Factory set PRV’s are tagged with pressure settings)
15. Tamper (Fire Alarm contact- Supervisory)
16. Valves (monitored or locked)
17. PIV (locked and/or monitored)
18. Spare heads and wrenches (mounted)
19. Riser and riser-room, including heat and lighting
20. All sprinkler system valves labeled
21. Density placards in place
22. Risers, jockey pumps, and compressors properly restrained
23. A sprinkler company representative shall be on-site for final (sprinkler system release) inspection.
24. “Green” Tag on riser

* NOTE – Any delinquent paperwork or re-inspection fees will be resolved prior to releasing the sprinkler system.

F. Pump Test

1. Tests are required to be requested a minimum of one business day (prior to 4:00 p.m.) before the test is needed.

2. Tests shall be in accordance with NFPA 20, Standard for the Installation of Centrifugal Fire Pumps.
3. A representative of the Cobb County Fire Marshal's Office shall witness the test.
4. Contractor's Material and Test Certificate for Private Fire Service Mains (NFPA 24)
5. The following shall be present or their factory-authorized representative:
 - a. Fire Marshal's Office
 - b. Sprinkler contractor
 - c. Building staff
 - d. Pump manufacturer
 - e. Engine manufacturer (if applicable)
 - f. Control manufacturer
 - g. Transfer switch manufacturer (if applicable)
6. The Fire Pump Acceptance Test Form shall be sent to the Cobb County Fire Marshal's Office (770-528-8320) followed by a mailed hard copy (1595 County Services Parkway, Marietta, GA 30008).
7. All adjustments, and flushing shall be complete prior to the inspector's arrival.

G. Standpipe Flow Test

1. Tests are required to be requested a minimum of one day (prior to 4:00 p.m.) before the test is needed.
2. Flow 500 GPM at 100 PSI from the roof (if applicable).
3. Tests shall be in accordance with NFPA 14, Standard for the Installation of Standpipe and Hose Systems.
4. Contractor to provide all test equipment
5. Test equipment must be in place and ready to go when the inspector arrives. All flushing and adjusting will be complete prior to the inspector's arrival.
6. The Contractor's Material and Test Certificate for Aboveground Piping with all signatures complete, shall be faxed to the Cobb County Fire Marshal's Office (770-528-8320) followed by a mailed hard copy to 1595 County Services Parkway, Marietta, GA 30008.
7. Pressure Reducing Valves shall have proper documentation for 175 psi setting or be field adjustable and set to 175 psi. (All Factory Set PRV's shall be tagged with pressure settings and a list given to the building engineer)

H. Flow Test Procedure – 13R Systems (Before installation of ceiling)

1. Tests are required to be requested a minimum of one day (prior to 4:00 p.m.) before the test is needed.
2. Contractors shall provide all test equipment.
3. Contractor shall furnish four (4) containers labeled and graduated in gallons.
4. All flushing and adjusting shall be done prior to the arrival of the inspector. All equipment shall be set up and ready to minimize delay.
5. One head flow and four head flow shall be conducted at the most remote area.
6. Static pressure shall be read at the base of the riser and logged prior to flow test.
7. Residual pressures shall be read at the base of the riser and at one sprinkler outlet and logged during the flow test.
8. GPM flow shall be measured at the remote area in the graduated containers.
9. Sprinkler contractors shall provide the inspector data sheets on the installed sprinkler heads prior to the flow test.
10. All wet pipe shall be protected from temperatures below 40 degrees Fahrenheit.