



Somerton/Cocopah Fire Department
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SOMERTON/COCOPAH FIRE DEPARTMENT

COMMUNITY RISK REDUCTION

CONSTRUCTION INSPECTION GUIDELINE

SOMERTON/COCOPAH FIRE DEPARTMENT
Construction Inspection Guideline

SCFD

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General Inspection

GOAL: To provide prompt and accurate construction inspections.

In order to succeed in our common goal, we need your assistance in assuring your construction meets the minimum requirements of the codes. To accomplish this we have put together the following guideline for your use. If the guideline is used to pre-inspect the job, and the standards followed, we can arrive at your job site, conduct the requested inspection and then give the approval to proceed.

This guideline is not meant to be all inclusive, nor is it intended to substitute for the need to know and understand the codes.

Should you have any questions, please contact us at 722-7300 or 722-7383. We will promptly respond to your concerns.

GENERAL:

1. Identify property by posting the lot number and address in a conspicuous location so that it is readily visible from the street.
2. Provide an approved set of plans that are available to the inspector on site.
3. Provide access to all inspection areas.
4. Schedule inspections only when you are sure the job is ready for inspection. If the job has not progressed to a point where it can be properly inspected, the inspector may charge a \$16.50 re-inspection fee, which must be paid prior to the inspector returning. If the job will not be ready, please call 722-7383 as soon as possible to cancel the inspection.
5. Deviations from the approved set of plans may require submittal for review and approval by the Fire Plans Examiner. Some minor deviations may not require submittal. Contact your inspector for a determination.
6. Construction sites (interior and exterior) must remain clean to minimize the chance for injury. Debris and waste shall be disposed of in an appropriate waste container. Combustible debris, waste material or trash shall not be burned on the site.
7. Maintain all roads so that emergency vehicles can gain access to the site. Do not block hydrants.

CONSTRUCTION SITE REQUIREMENTS

A means of accessing the 9-1-1 system shall be within three minutes of every construction site.

Install all-surface fire department road access prior to vertical construction.

- A. required access roads shall be installed and maintained on site as all-weather driving surfaces prior to any construction, set-up of a storage trailer or the stocking of combustible materials on site
- B. access roads will be required when any portion of a first floor exterior wall is located more than 150 feet from improved driving surfaces
- C. access roads shall be designed to support the imposed loads of fire apparatus
- D. access roads shall have a minimum unobstructed vertical clearance of not less than 13feet, 6 inches
- E. access roads shall have a minimum unobstructed width of not less than 20 feet
- F. all dead end access roads in excess of 150 feet in length shall be provided with provisions for turning around of fire apparatus (see City of Somerton's engineering standards)

On-site hydrants are to be installed and in-service prior to any vertical construction.

- A. hydrants will be in place and in service prior to vertical construction, set-up of storage trailers or the stocking of combustible materials on site
- B. Outlets shall have National Standard Threads
- C. Steamer connections shall be 4.5 inches in diameter (see COS Engineering hydrant detail)
- D. A minimum of 3 feet clearance shall be maintained around the circumference of the hydrant
- E. Hydrants not protected by curb or raised medium may be required to use bollards or tall visible markings to protect them from vehicle traffic
- F. Hydrants shall not be located closer than 40 feet to a building, when possible
- G. Hydrants which have been installed, but no in service, shall be affixed with an "Out of Service" indicator

Building access for the purpose of fire fighting and emergency response shall be provided at all times. Construction material shall not block access to the building, hydrants or other fire appliances.

Until permanent fire extinguishing systems have been installed and in service, fire protection shall be as follows:

- A. One all-purpose (ABC) pressurized dry chemical extinguisher (minimum 2A-10B-C) shall be placed to protect every 2000 square feet of building
- B. Maximum travel distance to an extinguisher shall not exceed 75 feet

During operation of an open flame necessary to perform a trade, an approved fire extinguisher with a classification of 4A-40B-C shall be located within immediate reach of the tradesman or technician.

Hot mop roofing operations require:

- A. 20B-C fire extinguisher located at the tar kettle
- B. 20B-C fire extinguisher located on the roof
- C. Kettle constantly attended unless the unit has an operational thermal protection device built in

UNDERGROUND FIRE LINE, FDC, FIRE HYDRANTS, FLUSH & PRESSURE TEST INSPECTIONS

Consult the approved plans and verify the following:

- A. Size of piping
- B. Type of piping
- C. Depth of piping
- D. Proper pipe configuration
 - 1. Thrust blocks
 - 2. Guide wires
 - 3. Protective wrap (polywrap) of piping, including fire riser flange spigot (ductile piping only)
 - 4. Direction changes
 - 5. Double backflow device (correct direction, valves secured or monitored)
- E. Fire Department Connection (FDC)
- F. Connected on the system side of control valves
- G. Wet pipe line
- H. Check valve just below the Siamese hose connection above grade
- I. Siamese connection face the street and clear of the sidewalk
- J. Located on the address side of building or on the building in the fire access approach
- K. FDC location will not obstruct access roadways when being supplied by hose lines
 - 1. Level, firm surface around FDC
 - 2. Location will not require advancing of hose lines between parked vehicles
 - 3. Connected to the riser on the system side of the control valve
 - 4. Check valve just below Siamese hose connection, above ground
 - 5. Check valve installed in correct direction
 - 6. No closer than 40' or more than 150' from a fire hydrant
 - 7. Proximity to buildings shall be determined based upon firefighter safety
 - 8. Should more than one FDC exist for any one building or building complex on the same property, FDCs shall be plumbed to serve all risers (any one FDC shall supply all risers on the property)
 - 9. Servicing only one building: painted red with address served in 4" white numbers on piping
 - 10. Servicing more than one building: provide 12" by 18" white background sign with the addresses served in 3' red numbers

11. Verify 3' clearance around FDC
12. Installed between 18" and 48" above finish grade
13. Verify correct pipe thread (NPT)
14. Verify approved caps

L. Fire Hydrants

1. Verify location/locations and spacing
2. Steamer port faces directly towards the fire lane
3. Verify 3' clearance around the hydrant
4. Verify blue reflector installed centerline of the right of way and in direct line with the hydrant

M. Flushes

1. Verify by testing chlorine test
2. Verify by testing that all piping is flushed until clear and free of all debris
3. Insure bacteria test is taken by contractor (results to COS Engineering)

N. Pressure Test

1. Insure valves are in the proper position for the test to be performed
2. Pressure of test is 200# or 50 psi in excess of system working pressure, whichever is greater
3. Test duration is 2 hours

ROUGH FIRE SPRINKLER SYSTEM INSPECTION

Consult the approved plans to verify the following:

- proper type and size of piping
- double backflow assembly for size, type and direction
- confirm that the installation does not have excessive change of directions that are not indicated on the plans
- proper hangers and supports with correct spacing
- proper sway bracing on 2.5" and larger piping with correct spacing
- proper type, orifice and temperature of sprinkler heads
- proper clearance of heads from obstructions
- correct distances between heads, off of walls, maximum coverage per head and distance below roof deck
- proper inspector's test discharge orifice
- no paint, plaster, after market coating, etc. on heads (replace heads, no cleaning)
- all control, auxiliary and inspector's test valves installed with 7' of the floor or grade
- access panels and signage for valves located inside of a wall or concealed space
- all signage in place
- hydraulic calculation plate on riser
- spare sprinkler cabinet with heads, wrench and a NFPA 25

FINAL FIRE SPRINKLER SYSTEM INSPECTION

Consult the approved plans to verify the following:

- tamper and flow switches are installed and functioning as designed
- observe a main drain test to verify that the residual pressure meets or exceeds the design pressure on the hydraulic plate
- proper signage
 - main drain
 - control valves
 - inspector's test
 - FDC
 - hydraulic placard
 - access panels (indicates the type of valve within the hidden space)
- floor is sealed where the riser flange spigot penetrates the building
- perform a walk through to verify
 - proper placement, type and temperature of the heads
 - heads are free of obstructions
 - heads not painted
 - escutcheons are properly installed
- observe activation test of the fire alarm notification appliances
 - inspector's test to verify local alarm within 90 seconds
 - verify off-site monitoring for sprinkler flow

ROUGH FIRE ALARM SYSTEM INSPECTION

Consult the approved plans to verify the following:

- all fire alarm device components installed per approved plans and NFPA 72
- proper wire type
- proper wire gauge
- proper alarm classification for occupancy
- proper wiring support per NFPA 72 and the National Electrical Code
 - (wrapping fire alarm wiring around steel nails and using metal staples are not approved methods for securing or supporting fire alarm wiring)
- support of conduit and back boxes, including protective bushings in conduit
 - wiring installed below seven feet shall be installed in conduit
- location of all fire alarm system devices
- location of fire alarm control panel (temperature control space)
- location of annunciator panel when required (an annunciator panel is required to be located at the front entrance when the alarm system is equipped with more than one zone)
- proper separation of fire alarm wiring (minimum of four feet separation between wiring on the horizontal runs and one foot separation on the vertical runs)
- fire alarm wiring not painted
- tamper switches on all fire sprinkler control valves (installed as supervisory signals)
- duct detectors when units exceed 2000 cfm or units that share an area that exceeds 2000 cfm collectively
 - unit shuts down when duct detector activates
 - supervisory signal sent when duct detector activates
 - above ceiling, LED at ceiling level lights up when duct detector activates

FINAL FIRE ALARM SYSTEM INSPECTION

Provide the NFPA 72 report

Consult the approved plans for the following:

- proper location and types of all fire alarm system devices, including smoke detector in FACP room
- observe fire alarm system functional tests for all fire alarm devices, including duct detectors (audible/visible appliance synchronized in same zone)
- activation of all fire alarm notification appliances (including electric bell using the inspector's test valve – activation within 90 seconds)
- tamper switch activation on sprinkler control valves (supervisory signals)
- activation of alarm notification on kitchen hood systems as required
- all tests:
 - measure decibel readings to verify compliance
 - proper voltage drop
 - proper system for occupancy
 - proper battery size
 - duct detector activation (supervisory signal, LED lights up)
 - twenty four hour battery test (breaker off for 24 hours prior to test, audible test conducted for 5 minutes)
 - FACP circuit breaker is secured, identified and is a designated power circuit breaker
 - FACP power circuit breaker number and electrical panel location is identified inside or near the FACP
 - all signals received at the FACP
 - all signals received at the annunciator, if applicable (an annunciator panel is required to be located at the main entrance when the alarm system is equipped with more than one zone)
 - all signals received at the off-site monitoring agency

KITCHEN HOOD SUPPRESSION SYSTEM INSPECTION

Consult the approved plans to verify the following:

- location of manual pull stations
- signage of manual pull stations
- location, size and type of extinguishing agent
- proper pipe size
- proper pipe support
- proper nozzle type
- nozzle locations
- observe air movement through all system nozzles
- observe test of fusible link
- observe activation of the manual pull stations
- observe deactivation of all fuel sources under the hood during all tests
(gas and electric)
- observe deactivation of the make-up air upon activation of the system
(exhaust air shall remain working)
- observe activation of the fire alarm notification devices
- observe signal received at the FACP
- proper placement of the Class K fire extinguisher
(mounted within 30 feet of cooking equipment)
- hood extends a minimum of six inches beyond the edge of the cooking
appliances

FINAL FIRE BUILDING AND SITE INSPECTION

Building address size and location on exterior of building

- locate between grade and less than twelve feet above grade
 - characters minimum 6 inches in height
- located twelve feet or more above grade
 - characters minimum 12 inches in height
- characters visible from the street or road fronting the property
(if required – on all fire department approaches)
- characters contrast to building colors

Proper location of Knox Boxes:

- installed at all exterior entrance doors or as approved
- approximately 60 inches above top of grade to top of box
- keys and contact information placed within and box locked
- multiple keys shall be tagged to identify its use
- contact information shall include:
 - name and telephone number of local responsible party/parties who are available on a 24 hour basis
 - name and telephone number of the alarm company
 - location of the central alarm panel and fire sprinkler riser
 - applications for low security key boxes for access into fenced compounds shall be reviewed for approval on a case-by-case basis
- NOTE: Call 928-722-7383 to have keys/information updated upon changes

Placement of fire extinguishers

- correct type
- proper location (maximum 75 feet travel distance)
- mounted a maximum of 5 feet to the top of the extinguisher from floor
- unobstructed view and access
- signage when required

Required exterior and interior building door signage

- “FACP” and “FIRE RISER ROOM” on access doors as needed
- Suite numbers or letters
 - minimum 4 inches in contrasting colors

Fire lanes appropriately marked

- curbs, streets and/or driveways painted Federal Safety Red as required
- signs or lettering on curb must be at least eighty feet on center and read “NO PARKING FIRE LANE” in 4 inch white block letters on the vertical face of the curb