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Fire Suppression Services Incorporated
3802 South 2300 East, Millcreek, UT 84109. Ph (801) 277-6464

Lead Times
Specialty Items
Points to note.

Background reading
Notes to Owner & Architect III
Master Format 2012

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Errors & Omissions to ArunFSS@live.com

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For Your Information:

A note on the Lead Times that are to be expected on various supplies in the Fire Suppression Installation

PLEASE BE ADVISED: *Designers for all divisions of Fire Suppression need a FULL set of CAD files.*

Div-10-44 Cabinets & Extinguishers

(If within FSSi's bid/scope of work)

Cabinets & Extinguishers often require **five to fifteen business days**, from order day to delivery to site, they are non-returnable.

You will be supplied via a submittal sheet, the information needed to mount the cabinet.

Fire Suppression Services Inc. does not install cabinets.

Div-21 Wet, Dry & Chemical Fire Suppression

(If within FSSi's bid/scope of work)

Wet

Positioning

In our Terms & Conditions we state that FSS Wet Sprinkler fitters require pipe working to be "First & High". i.e. they require 'First Right of Way'.

Deviations from this will incur extra costs to you for re-routing.

The main reason for this is that lines need to drain, therefore have to be drained throughout the life of the wet-sprinkler system. Non-draining pockets can freeze, or collect sludge that may inhibit the correct operation of the system or cause flooding.

Testing

FSSi Sprinkler Technician's will pressure test, by section, with any of the following: air, water or Nitrogen, to approx. 200 psi in order to check the integrity of the seals/threads/heads/glue-joints. (Code) Hence we would suggest that you hold off, until this is completed, before sheet-rocking & ceiling tiling that section. Water leaks will happen; we are trying to find 'em with this test.

The pressure must hold for three hours, with AHJ inspecting the start pressure, & 3-hrs later, return to inspect the end-pressure. (Code)

Ceilings

Grid and ceiling tile or its equivalent MUST be in place, with heads in normal finish position to get a Final/Occupancy from a Fire Marshal. (Code)

Paint

FSSi technicians add paint-caps to sprinkler heads to prevent paint overspray. (Code)

Painting the sprinkler heads puts them out of code, they MUST then be replaced. This will incur parts & labor charge-back if we have to replace painted heads. Warn your maintenance-painting department folk. It is a violation to clean paint off paint-sprayed heads, they must be replaced. ALWAYS cover sprinklers and escutcheons before painting.

(Because the heads won't operate correctly in a fire. Paint affects their thermal coefficient). (Safety)

Tell them:

"Coffee Filters are your friend! They're cheap, easy to use and keep the Fire Marshall or the Fire Suppression Service Inspectors off your back"

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Low Voltage

All Tamper & Flow switches from Riser, Standpipe & PIV's will require Low Voltage wiring by Alarm Technicians, back to the building zone alarm panel. If we do not have the Alarm Bid, then you will need to advise your Alarm Techs.

Put it in Div-28 Alarm, or Div-26 Electrical scope of work.

Concrete Penetration

FSSi will need twenty four hours notice prior to your pouring of the slab for each floor so we can set a sleeve for the four+ inch standpipe penetration to the upper-levels, and a pour-watch so they do not move it whilst pouring concrete; Else, if there is going to be a standpipe in a stairwell, make provision to allow a 6" hole through the landing, at least eighteen inches away from all walls, and make provision for re-bar to be away from the hole if it has to be core-drilled after pour, rather than sleeved. Holes must align vertically.

Underground & Bacteria Test

The Riser flange must be a minimum of 18 inches from any wall, we advise 20 inches. Flange cannot extend beyond ten feet inside the building, under a concrete slab, in new construction.

You will need to supply clean, bacteria-free & particulate-free fire suppression water to the flange.

Before we can connect the Back Flow Preventer (BFP) or the Riser to the incoming underground flange, we will require the results of your Chemical / Flow / Bacterial Test, a copy of that test and the underground signed off by AHJ. AKA: *Contractors Material & Test Certificate for Underground Piping*. (Code NFPA-13)

Your Division-31/33 underground Technician will need to temporarily pipe the flange appropriately, so water discharges away from your riser room when he is 'water-clearing' it. (To avoid Flooding, yard damage, &/or an Ice-Skating Rink forming in the yard.) The water flow on the test must be at the flow pressure as stipulated in the hydro-calculations.

Put it in Div-31/33 Underground (Scope)

Pumps: Fire & Jockey

A Jockey Pump AND its controller is a 'special design-build, special-order' item. So is a Fire Pump, Diesel or electric. The Controller must match the pump. These special builds can take between **six to fourteen weeks to deliver, (6-14 weeks)**, and up to three to five-plus days to install. And during installation, a minimum of three days notice of install finish is required so I can have the pump company representative attend start-up, in order to maintain Warranty for the Device.

HV AC: Up to 480 volts dedicated ground, grounded dedicated circuit, may be required. (May require 3-phase)

Put this in Div-26 Electrical (Scope)

Muffler, Exhaust piping, and wall penetration & waterproofing to the atmosphere is required.

Put it in Div-23 HVAC -Internal Combustion Engine Piping (Scope)

Note: When the start up test occurs, diesel engine noise & exhaust smoke occurs! This noise & smoke will also occur EVERY year on Inspection date, for the life of the building. (Code)

Are you and your residents prepared for this?

Anti-Freeze

(Ethylene Glycol, Glycerin)

These chemicals are no longer permitted in most jurisdictions. Now all new installs, where freezing may occur, must use a dry-system. Existing systems are to be 'phased' out by 2022. NFPA-TIA 2011

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Chemical

Kitchen Hood

Gas Valve

FSSi Chemical Suppression Technicians will, for Kitchen Hood Suppression, supply your Division-22 Plumbing Group; the appropriate Mechanical Gas Shut-Off valve for the kitchen Natural Gas Supply (cannot be fitted/hidden in the ceiling). (Scope) (Safety)

Exhaust System Electrical Interlocks

All cooking appliances must be fixed in place ready to cook, before installation can begin. You are to ensure that all hood system & duct thermocouples are operating the electrical interlocks for the exhaust fan systems. (Code)

High & Low voltage circuits

The Junction Box adjacent to the chemical suppression, (Ansul/PyroChem) cabinet will require dedicated breaker-ground HV wiring. (Code)

Put this in Div-26 Electrical. (Scope).

The Cabinet itself will require an LV connection back to the Building Alarm Panel. (Code)

Put it in Div-28 Alarm Technicians. (Scope)

PBX & Data rooms

High & Low voltage circuits

The **FSSi** Clean Agent Technicians will require dedicated breaker/dedicated-ground HV to the clean-agent panel in the data room/pbx room.

Put in Div-26 Electricians. (Scope).

Panel also requires LV wiring back to the building alarm panels.

Put in Div-28 Alarm Technicians.(Scope).

Gas-tight room integrity

The installation room must be gas-tight on door closure; door must close automatically whenever the room is entered or exited; All ceiling tiles clipped down; all 'holes' sealed. ALL penetrations into the room above the ceiling to deck above must be gas-tight. All is to be completed prior to pressure-testing & permitting. (Ref: Code & Warranty Specifications).

Div-28 Fire Detection and Alarm

(if within **FSSi's** bid/scope of work)

At least one 125 VAC 20 amp breaker ground dedicated circuit to panel is required. Breaker must be CLEARLY labeled. (Code)(Scope: Div-26 Electrical)

There are two types of 'bid'

1. Parts & Smarts: We provide Devices and programming for the fire alarm system.
 - a. You do the installation (Via the Electricians) You drop to the FACP, but do not connect, to the FACP.
 - b. We Connect and Program
2. Turn Key: We provide everything except 125 VAC to the Fire Panel.
 - a. We also install the alarm wiring, the panel, and we program it.

The Dialer needs either a dedicated POTS phone line with dial-tone, OR a wireless dialer with dial-tone, is required.

(scope: Owner or Div-27 Comms.)

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A monitoring Company is required. **Fire Suppression Services Inc.** offers this fee-based service

Div-31 Earthwork

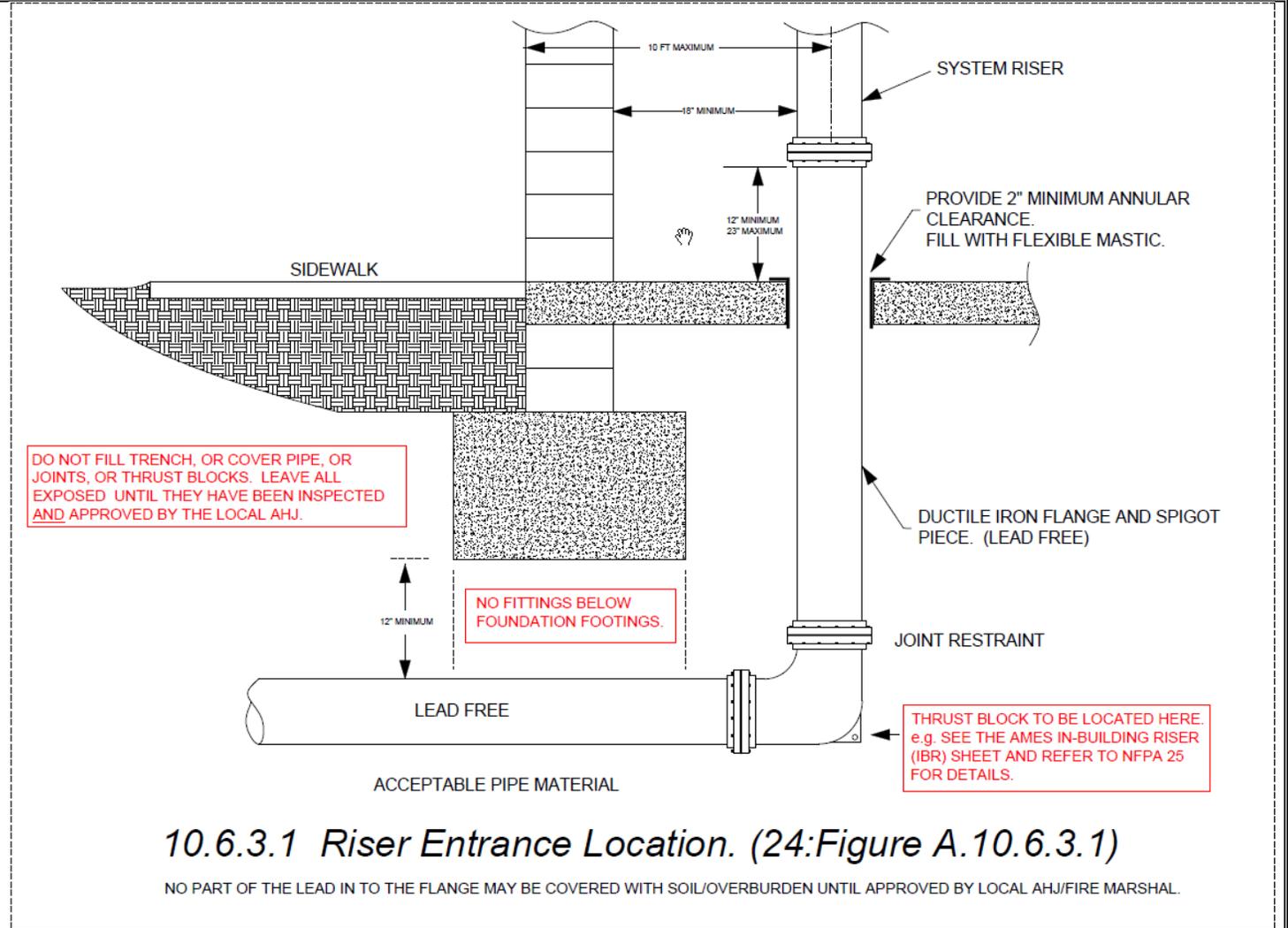
(if within FSSI's bid/scope of work) AND ...

Div-33 Water Utilities Fire Suppression Utility Water (AKA "UnderGround")

(if within FSSI's bid/scope of work)

Fire Suppression Services requires at least **THREE, preferably FOUR, business days'** notice before commencement of any underground trenching or pavement cutting for the installation of Public Utility connection to the building riser room. (In order to schedule Blue Stakes, Local permits, etc.)

Riser - points to note



10.6.3.1 Riser Entrance Location. (24:Figure A.10.6.3.1)

NO PART OF THE LEAD IN TO THE FLANGE MAY BE COVERED WITH SOIL/OVERBURDEN UNTIL APPROVED BY LOCAL AHJ/FIRE MARSHAL.

1. Blue Stakes will need at least two business days notice.
2. Permitting may take up to four days

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- It is possible to put down a concrete pour leaving a five-foot by five-foot un-concreted square, where the 6" riser comes up through the floor. You may use an Ames IBR (In-Building Riser)
- The inside Riser flange cannot be greater than ten feet from the outside wall. (Code)
- Door (To Be Done by Others) to the riser room must include a 'Riser Room' label on its exterior side.(Code)
 - Most AHJ's require a door for the riser room, opening directly to the OUTSIDE of the building.
- No more than one hundred fifty (150) feet of trench shall be left open at any time.
- The entire trench shall be backfilled to within fifty (50) feet of the open trench upon conclusion of each day's work.
- The trench shall not be backfilled until the pipe installation is found acceptable by AHJ (Code)
- Trench shall be backfilled within one hundred (100) feet of the pipe installation at all times.
- Clean-up shall be maintained within four hundred (400) feet of the trench excavation.
- Prior to placement in the trench, all pipes, fittings, and appurtenances shall be cleaned and examined for defects by CONTRACTOR.
- If found defective, CONTRACTOR shall reject the defective pipe, fitting, or appurtenance.
- CONTRACTOR shall advise ENGINEER of all defective materials.
- Surplus Excavation:
 - All surplus excavation shall be placed, in an orderly manner.
 - If material is stockpiled on private property, written permission shall be obtained from the property owner and provided to ENGINEER.
- All trenching and pipe-work has to remain uncovered for inspection. (Code)
- The thrust block must remain uncovered for inspection. AHJ
- A "Contractors Material & Test Certificate for Underground Piping" must be supplied to the Fire Suppression Services Inc. Project Manager (PM) before the fitters can stack the Riser Assembly. (Code NFPA-13)
 - Flush test and water running clear must be observed by AHJ before Riser installed on IBR flange.(Code)
 - Bacteria test is also part of the above certificate.
 - (Document must go to Div-21 Project Manager before riser is stacked)
- You may use EITHER: a Grooved OR: a Flanged termination in the riser room, on the IBR. Check with local AHJ.
- Riser area pipe-work has to be minimum of one-foot six inches away from any wall. (Code)
 - (Common sense-Wrench swing, Tamper wiring and valve clearances.)

General/Warranty

Any personnel adjusting, tampering or moving Fire Suppressing fittings, either mechanical or electrical without the appropriate State Fire Suppression Certification/s and AHJ permits, will put the systems out of Code, affect Life Safety, invalidate any Warranty, and will likely invalidate the various insurances & occupancy rights, applying to the building and people within.

Summary

All interconnects/cross connects that entail:

- HV 110-125 to building circuit breaker panels or LV Alarm wiring to the building fire alarm panels, ...
 - ...put in Division-26 or Division-28 scope of work.

That means to our Sprinkler & Kitchen Chemical Suppression Technicians, that

- You provide/make provision for: HV dedicated lines back to the building circuit breaker panel.
 - You CLEARLY label each breaker
- You provide/make provision for: LV alarm wiring back to the building alarm panel. (FACP or BMS)
- You provide
 - the Kitchen Hood Thermo-sensors & connection to the exhaust-fan system, for all:
 - Kitchen Hood Suppression Systems,

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- the Kitchen Hood's associated Exhaust-Makeup air Fan System
- The Ansul Automan Cabinet Junction box.
- You provide HV & LV interconnects for:
 - The Sprinkler System Backflow Preventer in the Riser room.
 - The FM 200 Chemical Suppression Systems.
 - Wiring to the external Strobe/Gong over Riser room or external FDC.

AND it also means these connections are required and that Fire Suppression **Div-21 Sprinkler Fitters & Hood Technicians** do not provide this ...

Our Div-28 Alarm Technicians may have bid the LV connections, so that LV will be in their Scope of Work.

Should you have any questions about the subject, ask us.

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References

- CSI Master format numbers 2012 <http://www.csinet.org/>
- NFPA 10: Standard for Portable Fire Extinguishers.
- NFPA 13 & 13R Installation of Sprinkler Systems.
- NFPA 14: Standard for the Installation of Standpipes and Hose Systems, 2010 edition.
- NFPA 17 & 17A Standard for Dry/Wet Chemical Extinguishing Systems
- NFPA 20: Standard for the Installation of Stationary Pumps for Fire Protection, 2010 (if applicable)
- NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances
- NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
- NFPA 30: Flammable and Combustible Liquids Code 2003 Edition. (if applicable)
- NFPA 72: National Fire Alarm Code
- NFPA 96: Standard for Ventilation Control and Fire Protection of Commercial Cooking Ops/Grease-laden vapors.
- NFPA 101: Life Safety Code
- NFPA 170: Standard for Fire Safety and Emergency Symbols
- NFPA 750: Standard on Water Mist Fire Protection Systems
- NFPA 2001 Standard on Clean Agent Fire Extinguishing
- Incorporated into this document are other NFPA Codes as referenced and where applicable.
- NFPA Home: http://www.nfpa.org/aboutthecodes/list_of_codes_and_standards.asp
- NFPA Data: <http://www.nfpa.org/codes-and-standards/document-information-pages>
- EN 12845: Fixed firefighting systems, Automatic sprinkler systems, Design, installation and maintenance.
- International Fire & Building Code/s and Life Safety Code **if** installed according to Code..
- Utility Supply Code
- Ansul - R-102 UL300 MANUAL Rev 10 - (143 Pages)
- UL Standard 1254 & UL Standard 300
- Fire Suppression Services Inc. Bid, Contract documents, & Terms & Conditions

Credits

Bill Gubler, Tek Purser, Heath Dangerfield, Tim Strickland, Scott Benson, Ron Fechter.