

COLDWATER POLICE & FIRE SERVICES • Brett A. Pehrson – Director



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To: Fire Sprinkler Design or Contracting Firms

RE: Coldwater FD Standardized Sprinkler Plan Submittals

EFFECTIVE FEBRUARY 20, 2009

The Coldwater Fire Department would like to take this opportunity to inform you of our desire to achieve a standardized means and formatting for all future fire sprinkler system design plans for submittal to our department for review.

In accordance to the requirements of the Michigan Building Code and the National Standard for the Installation of Sprinkler Systems (NFPA 13), all sprinkler contractors performing work on a fire sprinkler system within the City of Coldwater shall apply for a mechanical permit through the Branch County Mechanical Inspector's Office (517) 279-4303. **All fire sprinkler systems and associated submittal documents for systems installed within the City of Coldwater are subject to the Coldwater Fire Department's review and inspection process.** The submitted documents shall be prepared by a professional engineer registered in the State of Michigan or a person who has achieved NICET certification for fire sprinkler system design layout. Supporting documentation shall be submitted with all plan submittals.

Then following will describe in general information necessary for our review:

- Written scope of work which includes the design standards, overview of the installation and the intent of the system.
- A complete floor plan which includes the use and labeling of each room within the building and all dimensional criteria of the rooms or areas being protected. (e.g., length, width, ceiling heights and wall construction)
- All depicted detail and locations of sprinkler risers, anti-freeze loops, piping, sizes, supports, heads, drains; ITV's and valves.
- Manufacturer's equipment and material listing materials.
- Standard or Specific Ruling being used in the design.
- All obstruction detail and mechanical equipment that could affect sprinkler operations.

NOTE: Deviation from approved plans shall require permission of the Coldwater Fire Department.

The plans shall be submitted by the following means:

- (2) Sets of plans, hydraulic calculations and manufacturer's material listings or Electronic CAD files. (with manufactures listings and hydraulic calculations in (*.pdf) formats)

The following will describe what details the submitted plans shall have:

WORKING DRAWINGS: (Extracted from NFPA 13)

Working plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall show those items from the following list that pertain to the design of the system:

- Name of owner and occupant.
- Location, including street address.
- Name, address, phone number and Email address of submittal person.
- Point of compass.
- Full height cross section, or schematic diagram, including structural member information if required for clarity and including ceiling construction and method of protection for nonmetallic piping.
- Location of partitions.
- Location of fire walls.
- Occupancy class of each area or room.
- Hazard classification of all system designs.
- Location and size of concealed spaces, closets, attics, and bathrooms.
- Any small enclosures in which no sprinklers are to be installed.
- Size of city main in street and whether dead end or circulating; if dead end, direction and distance to nearest circulating main; and city main test results and system elevation relative to test hydrant.
- Other sources of water supply, with pressure or elevation.
- Make, type, model, and nominal K-factor of sprinklers including sprinkler identification number.
- Temperature rating and location of high-temperature sprinklers.
- Total area protected by each system on each floor.

- Number of sprinklers on each riser per floor.
- Total number of sprinklers on each dry pipe system, preaction system, combined dry pipe- preaction system, or deluge system.
- Approximate capacity in gallons of each dry pipe system.
- Pipe type and schedule of wall thickness.
- Nominal pipe size and cutting lengths of pipe (or center-to-center dimensions). Where typical branch lines prevail, it shall be necessary to size only one typical line.
- Location and size of riser nipples.
- Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used.
- Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable.
- All control valves, check valves, drain pipes, and test connections.
- Make, type, model, and size of alarm or dry pipe valve.
- Make, type, model, and size of preaction or deluge valve.
- Kind and location of alarm bells. **(Coldwater Prefers Weather Proof Horn/Strobe)**
- Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment.
- Private fire service main sizes, lengths, locations, weights, materials, point of connection to city main; the sizes, types and locations of valves, valve indicators, regulators, meters, and valve pits; and the depth that the top of the pipe is laid below grade.
- Piping provisions for flushing.
- Where the equipment is to be installed as an addition to an existing system, enough of the existing system indicated on the plans to make all conditions clear.
- For hydraulically designed systems, the information on the hydraulic data nameplate.
- A graphic representation of the scale used on all plans.
- Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.
- The minimum rate of water application (density or flow or discharge pressure), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside.
- The total quantity of water and the pressure required noted at a common reference point for each system.

- Relative elevations of sprinklers, junction points, and supply or reference points.
- If room design method is used, all unprotected wall openings throughout the floor protected.
- Calculation of loads for sizing and details of sway bracing.
- The setting for pressure-reducing valves.
- Information about backflow preventers (manufacturer, size, type).
- Information about antifreeze solution used (type and amount).
- Size and location of hydrants, showing size and number of outlets and if outlets are to be equipped with independent gate valves. Whether hose houses and equipment are to be provided, and by whom, shall be indicated. Static and residual hydrants that were used in flow tests shall be shown.
- Size, location, and piping arrangement of fire department connections.
- Ceiling/roof heights and slopes not shown in the full height cross section.
- Edition year of NFPA 13 that the sprinkler system is designed to.

NOTE: Deviation from supplying details above will result in plans being refused for review.

WATER SUPPLY INFORMATION:

- Location and elevation of static and residual test gauge with relation to the riser reference point.
- Flow location.
- Static pressure, psi. (bar)
- Residual pressure, psi. (bar)
- Flow, gpm. (L/min)
- Date
- Time
- Test conducted by or information supplied by.
- Other sources of water supply, with pressure or elevation.

NOTE: Deviation from supplying details above will result in plans being refused for review.

HYDRAULIC CALCULATION FORMS:

Hydraulic calculations shall be prepared on form sheets that include a summary sheet, detailed worksheets, and a graph sheet. All Computer Generated Hydraulic Reports shall be prepared on form sheets that include a summary sheet, a graph sheet, a water supply analysis, a node analysis and detailed worksheets.

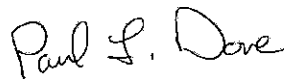
NOTE: Deviation from supplying details above will result in plans being refused for review.

All requested details noted above for paper submittals shall be included in plans submitted in electronic CAD format with accompanying (*.pdf) manufacturer's equipment and device listings and hydraulic calculations.

All submittals shall be a complete package submitted to the Coldwater Fire Department, Fire Marshal's Office prior to installation. Upon completion of the final acceptance testing inspection by the Coldwater Fire Department; the installing contractor shall provide the Coldwater Fire Department with the Certificate of Completion. The Coldwater Fire Department will generate an electronic inspection report and email it to your firm's contact person listed.

A copy of this notice has been distributed to the Branch County Mechanical Inspector's Office for their records. Should you have any questions concerning this notice, please contact our offices.

In Fire Safety,



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