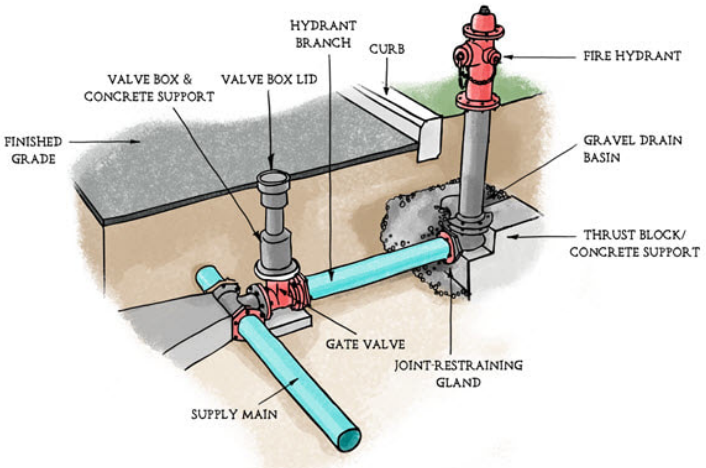
FIRE HYDRANT AUDIT AND INSPECTION PROGRAM

Introduction. The fire hydrant is one of the most important part of any water distribution system (see picture at right); and therefore it should be maintained and inspected on a regular basis. Hydrants typically stand idle for long periods of time and are subject to the effects of weather and the elements and they are also vulnerable to damage. However, they are expected to work flawlessly when needed in emergencies.

The primary purpose of a fire hydrant is fire suppression. To ensure that the hydrant will work properly when it is needed, a periodic testing and maintenance program must be followed. Although members of the local fire departments operate the hydrants, it is the Commission's responsibility to maintain them to ensure that the publicly owned units are in proper working order.

Currently, there are approximately 2,800 fire hydrants (publicly owned and private) throughout the County that the Commission oversees.



Typical fire hydrant installation showing water main and valve box.

Industry Standards. There are two industry standards that govern the installation, inspection and maintenance of fire hydrants. The 2019 Edition of the National Fire Protection Association (NFPA) Recommended Practice for Fire Flow Testing and Marking of Hydrants (NFPA 291, chapter 4.13) states that ***"public hydrants should be flow tested every five years to verify capacity and making of the hydrant."*** The American Water Works Association (AWWA) Installation, Field Testing, and Maintenance of Fire Hydrants (AWWA Standard M17, Chapter 5) recommends that ***"all hydrants should be inspected regularly, at least once a year, to ensure their satisfactory operation."***

Inspection & Testing Programs. The inspection, audit, testing and painting programs ensure that each hydrant is free of obstructions, is in proper working order and is adequately painted. The inspection also includes lubricating threads, replacing caps, checking for any leaky gaskets and conducting a flow test to determine both the amount of water available for fighting fires and the general condition of the distribution system. For example, in Fiscal Year 2021, the contractor tested 2,240 fire hydrants. In fiscal year 2022, we are scheduled to test and inspect the remaining 500 and paint approximately 2,000 hydrants. Hydrants are color coded (*see next page*) according to AWWA and NFPA standards to indicate the calculated flow at a calculated residual pressure of 20psi (140 kPa). Once the inspection is complete, the information is turned over to Commission staff for inclusion into our records as well as uploaded to the county's publicly available GIS database portal.

Insurance Service Office (ISO) Rating. Another important reason for regularly maintaining hydrants is that it affects the rating the local fire departments receive from the Insurance Services Office (ISO). **ISO** provides this score, often called the "**ISO fire** score," to homeowners **insurance** companies. Communities with better equipped fire departments benefit from lower premiums, but they also benefit from these evaluations by becoming aware of problems that need to be addressed, allowing them to plan and budget for making improvements in training, equipment and facilities. Historically, each of the Commission's fire hydrants have been inspected and tested every two (2) years, on average. This has allowed for very good ISO ratings for fire protection in areas served by hydrants within the County. An ISO fire insurance rating, also referred to as a fire score or Public Protection Classification (PPC), is a score from 1 to 10 that indicates how well-protected your community is by the fire department.

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Maintenance Responsibility. MetCom Standard Policy OPW-20-01 *Private Fire Hydrant Guidelines* sets forth the responsibility for properly maintaining private fire hydrants. The Policy states that the owner of the property or the owner's designee is responsible for the maintenance and upkeep of the hydrant, "(w)here the owner of a private fire hydrant has designated an occupant, management firm, or managing individual, through specific provisions in the lease, written use agreement, or management contract, to be responsible for the inspection, testing and maintenance of a private fire hydrant, the owner's designee shall comply with these requirements and shall be subject to the enforcement provisions in the event of a failure to so comply." Private fire hydrants shall also be kept free of snow, ice or other materials and protected against mechanical damage so that free access is ensured.

Fire Hydrant Cap Colors. The colored caps are an industry standard color coding system that advises the Fire Departments of the available flow rates. The fire hydrant flow rates are on calculate flow at a calculated residual of 20 psi (140 kPa). This color scheme and testing methodology is consistent with NFPA 291 Recommended Practice for Fire Flow Testing and Marking of Hydrants. Once the inspection is complete, the information is turned over to Commission staff for inclusion into our records as well as uploaded to the County's publicly available GIS database portal.

Cap Color	Available Flow Rate
Red	Less than 500 GPM
Orange	500-999 GPM
Green	1,000-1,499 GPM
Light Blue	1,500 GPM and above

Citizen Involvement. The Commission has also adopted an *Adopt – A – Hydrant* program that allows, and encourages, the community to partner with us in adopting a fire hydrant close to homes or businesses by keeping hydrants cleared of snow in the winter and free of vegetation and debris in the summer. This program, while not part of any audit or inspection program, will assist local fire department and Commission personnel in quickly finding and locating hydrants for use, inspection or repair.

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