



## Correcting Deficient Fire Flows

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Dear Reader:

The following document was created from the MTAS website ([mtas.tennessee.edu](https://www.mtas.tennessee.edu)). This website is maintained daily by MTAS staff and seeks to represent the most current information regarding issues relative to Tennessee municipal government.

We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with municipal government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other MTAS website material.

Sincerely,

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## Correcting Deficient Fire Flows

**Reference Number:** MTAS-1898

TDEC Rule 0400-45-1-.17(18) provides a fire chief with justification to request improvements in the water system. The regulation does not prevent the fire department from using a deficient fire hydrant (for example to fill tanks), but it does prevent the fire department from using a deficient fire hydrant with the fire apparatus pump engaged, which may result in inadequate fire flows and a poor outcome in firefighting operations (i.e. increased property loss). Once the fire department has identified at-risk areas with deficient water supplies for firefighting, the fire department should request of the water department, and any other departments, agencies, or entities that would be involved in decision-making and funding, a plan to upgrade the water system to provide adequate water for the protection of life and property. An inadequate water supply for fire protection makes it difficult for a community to get a good ISO rating for affordable property insurance rates.

The TDEC regulation provides fire departments with a way to identify hydrants with deficient fire flows so that the fire department does not use the deficient fire hydrant if another hydrant with adequate fire flows is within a usable distance of the fire. The regulation requires that deficient fire hydrants be marked with a red top to denote that the fire hydrant flows less than 500 gallons per minute, thus identifying the hydrant as a deficient fire hydrant for responding firefighters.

Once areas of a community with deficient fire flows are identified, the fire department and water utility should use a cooperative approach to create and implement a plan of corrective action. The common goal for both the fire and water department should be to protect the water system and public health while delivering adequate fire flows to the entire community. Improving the water system can be costly, requiring engineering studies and design work, which takes time. In addition, the utility must find funding sources for the improvements. Therefore, correcting deficient flows will take time, but the sooner everyone develops and approves a plan, the sooner the community will enjoy the benefits of an adequate water supply for fire protection purposes.

Improving the water system, installing larger water mains, replacing older/smaller water mains, and installing fire hydrants is expensive. Smaller communities may be eligible for community development block grants (CDBG) to provide financial assistance in improving the water system for fire protection purposes. This is the link for the CDBG program in Tennessee for more information on these grants: <https://www.tn.gov/ecd/community-development-block-grant/cdbg.html>  
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### Links:

[1] <https://www.tn.gov/ecd/community-development-block-grant/cdbg.html>

*DISCLAIMER: The letters and publications written by the MTAS consultants were written based upon the law at the time and/or a specific sets of facts. The laws referenced in the letters and publications may have changed and/or the technical advice provided may not be applicable to your city or circumstances. Always consult with your city attorney or an MTAS consultant before taking any action based on information contained in this website.*

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