

City of Griffin

Fire Hydrant Flushing and Maintenance Program

May 12, 2003

Water Quality Benefits

A pro-active hydrant flushing and preventative maintenance program is the key to preventing many water related problems and conditions. Hydrant flushing serves several purposes. Directional flushing is most effective in removing mineral and rust sediments by the scouring effect realized when water travels at a high rate through the line in the opposite direction of normal water distribution flow. An improved level of Chlorine disinfection will be realized further into the distribution system as these sediments have a lowering effect on residual Chlorine. The water will have a fresher taste, while color and odor complaints will be held to a minimum. Water pH will maintain higher levels throughout the system reducing the possibility of encountering a “red water” incident due to declining pH values and the resulting corrosion effect on distribution piping.

Fire Protection Benefits

Hydrant preventative maintenance is of particular concern when it comes to fire protection. Proper function of each hydrant in the system is critical, so as this program is implemented from year to year, we can all rest assured that any particular hydrant needed will function as required. Each hydrant will be flow tested, pressure tested for both static and residual pressures, outlet height, accessibility and location will be checked and documented. Preventative maintenance will be performed on hydrants throughout the system. Each hydrant will be color coded to identify the direction of turn on the valve and rated operational flow in gallons per minute. The Water and Wastewater Department will be notified of any hydrants in need of corrective maintenance repairs or replacement.

Increased level of service to our Customers

The number of complaints to the Water and Wastewater Department Office in regards to taste, odor and color have consistently increased from year to year due to complications from the extended drought. This program will raise our level of service to the customers considerably by improving the quality of water at the tap and by also insuring our fire protection abilities in the time of need. Communication among all involved parties is critical to the success of this endeavor.

Public Notification

The public notification outline and zone map indicating where the flushing will occur is to be published in the Griffin Daily News a minimum of three days prior to these activities taking place. It will also include instructions for the customer to follow as to what they should and should not do during the flushing process.

Customer instruction outline

The City of Griffin Hydrant Flushing Program is an annual service designed to provide better quality water to the consumers tap while ensuring proper function of our hydrants. Fire Hydrant flushing allows us to eliminate or expel sediments and other solids that naturally collect in our water lines over time. Flushing is accomplished by opening the hydrants and letting the water rush out carrying the sediments with it. The end result will be fresher, better tasting water. You may see temporary discoloration, changes in water pressure or temporary interruption of service due to these activities, however, the potability of the water will not be affected. The following items should be followed to minimize any problems you might encounter.

- **Do not wash clothes or run a dishwasher during or immediately after the flushing takes place.**
- **Several hours will be required to rid the cloudiness from the water lines that serve your home or business.**
- **After our crews have completed the flush, turn on the outside spigots, flush toilets and run a cycle through the washing machine to remove any sediment remaining in your line.**
- **Be certain all discolored water is out of the line and the water is rust-free before you launder any whites. If laundry does become stained, most grocery and hardware stores carry laundry aids which remove rust stains.**
- **Brown water poses no threat to your health, but it may have an unpleasant taste and you may wish to avoid drinking it.**

Door hangers

Door hangers outlining the above information will be hung on the door of all homes affected by the flushing and maintenance activities.

Hydrant Maintenance & Recording

All hydrants will receive a thorough inspection and any deficiencies will be noted on the hydrant inspection form and turned in to the water system office. The responsibility of performing **corrective maintenance** including raising and lowering outlet heights, replacing valves, correction of leaking hydrants, opening plugged weep holes, ect. will belong to the Water System, Maintenance and Construction department and copies of the completed maintenance reports will be sent back to the Fire Department to be kept on file. **Preventative Maintenance** to include oiling threads, replacing caps seals, exercising valves ect. will be performed by Fire Department personnel and reports will be forwarded to the Water System Office. This course of action will serve to ensure all parties involved have an accurate knowledge of hydrant condition throughout the system.

Hydrant accessibility

Hydrant access will be addressed by Fire Department personnel. Accessibility is essential throughout the system therefore, every hydrant location shall be evaluated to determine the ability to visually locate each hydrant. In cases where visual identification is blocked by the growth of vegetation, all shrouding vegetation shall be trimmed or sprayed on an as needed basis to maintain clear visual identification.

Hydrant Maintenance and Testing Reports

Hydrant inspections will be documented in the field and corrective maintenance reports will be generated weekly and forwarded to the water system office for follow-up. These records will be kept on file for no less than 5 years.

Hydrant Zone Flushing

The City area has been broken down into workable zones with either a certain number of hydrants or land area following distribution lines. Flushing will begin at the hydrant nearest the water tank and follow the lines out through the system, the last three digits of the hydrant number determine the order in which they should be flushed starting with the lowest number and proceeding in order to the highest number, flushing each hydrant along the way until each zone is complete. Several important points to remember when flushing hydrants are outlined below.

- Remove outlet cap and install energy dissipating device facing away from traffic, people and streets.
- Slowly open hydrant valve fully.
- Flush hydrant with valve fully open for as long as the water takes to clear, then flush for an additional 3 minutes and slowly close valve.
- Record all information on hydrant log sheet.
- Whenever opening or closing any valve, **always** do it slowly.
- Always divert flush water away from traffic, people and streets.
- **Our customers will be inconvenienced by our operations in the field. Everyone involved is required to use every precaution available to help insure any inconvenience is held to a minimum.**

Hydrant Numbering System

All hydrants within our water system will receive a number for operation and maintenance control purposes. This number system is broken down as follows.

The **first digit** in the hydrant number will determine which territory the hydrant is located in. These territories are established by the Fire Department and consist of a basic outline used to designate the specific area covered by each of our three fire stations. These territories are outlined on the **Area Map** as territories **1, 2 and 3**

The **second digit** within the hydrant number will be a **letter** designating which zone the hydrant is located in. The city area is broken down into 18 zones and assigned letters A-R. Fire Department personnel will be required to know which zones fall within your particular territory. Please refer to the **Area Sector Map** to determine the locations of each zone. Approximately 40 to 100 hydrants are located within each zone.

The **third, fourth and fifth digits** within the hydrant number provide a designated, three digit number for all hydrants within a particular zone. This three digit number will run from 001 thru 999 allowing for more than ample room for future hydrants to be added.

Example:

Hydrant number **2N045** is broken down as follows.

2.....Territory #2

N.....Zone N

045.....Hydrant 045 within zone N

Individual Sector Zone Maps

Zone maps provide a further breakdown of the system to allow more precise program control. Hydrant location is shown within each zone map by a hydrant symbol at the approximate hydrant location. The zone letter is on the fringe of each page in large bold text and faces north for orientation purposes.

Water Use Tracking

All water used for flushing purposes will be documented on the hydrant information sheet. The time in minutes and the flow rate in gallons per minute must be entered for each hydrant that is flushed. This information is critical for tracking unaccounted water loss.

System Flushing Order

Each Territory consists of multiple zones. The order in which each zone is to be flushed is an important element of this program and should be followed at all times.

Territory 1

Zone L - Zone H - Zone R - Zone P - Zone Q - Zone M - Zone O

Territory 2

Zone E – Zone D – Zone C – Zone B – Zone A – Zone G – Zone F

Territory 3

Zone I – Zone K – Zone N – Zone J

Each zone should be entirely flushed prior to moving on to the next. When beginning a zone flush, hydrant 001 shall be the starting point and the exercise should continue, **in order**, until the last hydrant in that zone has been completed.

Hydrant Color Coding

Hydrants will be color coded with a band of reflective tape to provide instant visual information on the flow rating for each hydrant. Standardized colors will be used. Upon arrival to the location of a fire, this color code system will be used to identify rated flow rates to aid in our ability to effectively fight the fire.

Red – Less than 500 gpm

Orange – 500 to 1000 gpm

Green – 1000 to 1500 gpm

Light Blue – Greater than 1500 gpm

Street Markings

Hydrant locations will be marked in the centerline of paved roadways with a blue, reflective square that will clearly indicate the hydrant location to be 90 degrees from the marker to hydrant on the shoulder of the roadway.

Any required revisions to this program must go before the Fire Chief, Public Works Director and City Manager for approval.

Submitted by: _____
Public Works/Utilities
Director

Approved by: _____
Ron H. Rabun, City Manager

Submitted by: _____
Fire Chief

Date: _____