

## 2.3.2 Hydrant Maintenance



YOUR ORGANIZATION  
STANDARD OPERATING PROCEDURES/GUIDELINES

**TITLE:** Hydrant Maintenance

**SECTION/TOPIC:** Special Programs

**NUMBER:** 2.3.2

**ISSUE DATE:**

**REVISED DATE:**

**PREPARED BY:**

**APPROVED BY:**

X

Preparer

X

Approver

These SOPs/SOGs are based on FEMA guidelines FA-197

### 1.0 POLICY REFERENCE

CFR

NFPA

NIMS

### 2.0 PURPOSE

This standard operating procedure/guideline addresses programs and procedures for inspecting and maintaining hydrants.

This procedure provides guidance for the inspection and maintenance of the fire hydrant system in the City and to improve the working relationship with the City Water and System. The purpose of the Hydrant Inspection and Maintenance Program is to improve familiarization of hydrant location, ensure functioning hydrants in the event of a fire, and comply with ISO requirements.

### 3.0 SCOPE

This SOP/SOG pertains to all personnel in this organization.

### 4.0 DEFINITIONS

These definitions are pertinent to this SOP/SOG.

## **5.0 PROCEDURES/GUIDELINES & INFORMATION**

### **5.1 Procedures for Inspecting and Maintaining Hydrants:**

#### **SAFETY CONSIDERATIONS**

Fire personnel are at great risk while operating in or around moving traffic. Always maintain an acute awareness of the high risk of working in or around moving traffic.

**Never trust moving traffic.**

Apparatus need to be positioned to protect fire personnel from on-coming traffic when servicing hydrants near the roadway. Apparatus should be parked, with warning lights on, to protect employees who may be working near the roadway or situations that may require you to be in the roadway to remove caps, etc. When hydrants are located away from the roadway or set back behind sidewalks, etc, it may be possible to park the apparatus off the road.

Always look before you step and keep an eye on the traffic! Fire personnel should exit the curb-side or non-traffic side of the vehicle whenever possible.

Turnout coats or reflective vests are to be worn while inspecting hydrants. Leatherwork gloves (not structural firefighting gloves) must be worn when servicing hydrants.

When handling caps or applying grease, personnel should be mindful of sharp edges, metal burs, or other edges which may cause cuts or injuries.

#### **INSPECTION / MAINTENANCE SCHEDULE**

Fire Division personnel shall conduct hydrant inspections and maintenance on the hydrants within their assigned safety survey zones for the duration of their zone assignment. Each station officer on each shift will be responsible for scheduling maintenance inspections of the hydrants within their assigned zone.

ISO requirements request a 6 month servicing schedule for hydrants in order to receive maximum credit. Every effort should be made to visit each hydrant, within the assigned zone, and complete the needed documentation every 6 months. At minimum, each hydrant should be inspected once every 9 months.

#### **HYDRANT INSPECTION PROCEDURE**

The hydrant inspection involves checking the hydrant for any damage or problems that may hamper the efforts of firefighters during emergency operations. Hydrant information shall be documented during the inspection on approved forms.

The following items should be considered when inspecting a hydrant:

1. Hydrant location and number
2. Physical damage and defects to hydrant
3. Obstructions on and around the hydrant
4. Hydrant outlets face the proper direction
5. Minimum 15 inch clearance between the lowest outlet and ground level
6. Condition of the paint
7. Public vs. private hydrant

Hydrants owned and/or maintained by City Water System are considered “public hydrants”. These hydrants are typically red or another approved color and are tracked by an assigned identification letter(s)/numbers system issued by City Water System. The Fire Division will track hydrants by the same system.

Hydrants owned by a private individual or business are considered “private hydrants” and will not be maintained by City Water System or the Fire Division. These hydrants are typically yellow in color. A private hydrant identification system will be utilized by the Fire Division to track these hydrants. Private hydrants will be assigned a 5 digit number. The first number will indicate the station area, the second number will indicate the zone within that station, and the last three will indicate the unique number assigned to hydrants within that zone. For example, a commercial site in Station 4 Zone 1 has four private hydrants. The hydrants will be assigned the numbers xx, xx, xx, xx. The Fire Division will only perform “hands-off” maintenance or visual observation items listed on the approved form. It is the responsibility of the owner/operator to have routine inspection and maintenance completed and not that of the Fire Division.

#### **HYDRANT MAINTENANCE PROCEDURE**

Hydrant maintenance is conducted to preserve the operational effectiveness of the hydrant. Each unit responsible for hydrant maintenance inspections will be equipped with a tool kit that contains: (1) hydrant test cap, (1) container of food grade grease, (1) wire brush.

The following procedures should be performed when conducting hydrant maintenance:

1. Check hydrant caps and outlets for rust. Remove rust with a wire brush. If the hydrant caps are stuck, tap the outer edges of the cap using the handle of the hydrant wrench, then attempt to remove the caps. If this fails, place the hydrant out of service. Never kick or stand on a hydrant wrench or try to “muscle” the hydrant cap off.
2. Visually check the hydrant cap, outlet threads and gaskets for damage and proper lubrication.

3. Lubricate the cap and outlet threads with food-grade grease.
4. Take a static pressure reading and test operation of valve stem
  - a. Remove a 2 ½ inch hydrant cap and attach the hydrant test gauge to the outlet.
  - b. The petcock should be in the open position.
  - c. Tighten the remaining outlet caps.
  - d. Turn the stem in a counter-clockwise direction (opening the hydrant) until it cannot be turned any more. Be advised that there are some left-thread hydrants that will open in a clockwise direction.
  - e. Turn the petcock off after approximately 2 minutes.
  - f. Check the reading on the hydrant test gauge.
  - g. Slowly close the hydrant. Remove the hydrant test gauge and check to see if the hydrant barrel is draining. Reapply the cap.
  - h. Document the reading and any problems found operating the valve stem.
5. Check the hydrant reflector for appropriate location on the pavement for easy hydrant identification. If a reflector is not installed, it shall be documented in the appropriate area on the form.
6. Remove all weeds and debris from around the hydrant to ensure visibility.
7. Other obstructions, such as traffic standards, protective barriers, sign posts, utility poles, shrubbery, or fences shall be documented in the appropriate area on the form. All items on the form shall be completed, deficiencies noted, and corrective actions must be documented.

### **HYDRANT REPAIRS**

Completed forms shall be submitted to the shift appointed hydrant manager. The manager will review the form for completeness, accuracy, and problems. If a problem area is noted for a public hydrant, the manager will notify the appropriate contact at City Water System regarding the deficiencies. Notifications will then be attached to the hydrant maintenance form. Deficiencies with private hydrants will be reported to Fire Prevention for follow-up with the property owner.

When personnel encounter a hydrant that is non-functional the proper documentation shall be completed and the hydrant manager and/or the Assistant Fire Chief on duty shall be immediately notified. The Fire Division hydrant manager and/or Assistant Fire Chief shall notify City Communications and request the on-call representative for City Water System be notified of the non-functional hydrant. When non-immediate maintenance issues are discovered, the Fire Division hydrant committee representative will contact the City Water System Hydrant Supervisor to report the problem. Reporting of all deficiencies shall be clearly documented on the maintenance form.

### **DOCUMENTATION AND COMMITTEE**

Fire personnel shall utilize the approved hydrant inspection form to complete all documentation. Fire

personnel will turn in completed hydrant maintenance forms every two (2) weeks, on the day time sheets are due for that period, to their committee representative. The shift appointed hydrant committee member will review the forms for completeness, accuracy, and problems within two (2) weeks. All filing, referrals within or outside of the committee, or other items needed to process hydrant inspections should be accomplished within this two (2) week time period.

One file system will be maintained for the Fire Division at Station 1. Each hydrant committee member is expected to manage the paperwork for their shift. Any activity, referrals ,or issues regarding a particular inspection report must be clearly documented on the inspection report. Any follow up information or corrective actions regarding that hydrant must be included on the same report.

Public hydrants are filed one hydrant per file folder, in numerical order by the hydrant's four digit number. All inspection records and follow up correspondence regarding that hydrant will be maintained within the folder.

Private hydrants are filed within file folders in one hanging file. There is a file folder for each zone . The Fire Division will only perform "hands-off" maintenance or visual observation items listed on the approved form. It is the responsibility of the owner/operator to have routine inspection and maintenance completed and not that of the Fire Division.

A hydrant maintenance committee will be formed. The committee will consist of three members, one from each of the shift. One of the committee members will serve as the hydrant maintenance manager. Each committee member will be responsible for collecting and reviewing the inspections from each of their shifts. All repair correspondence and requests will be coordinated by the hydrant committee members.

The hydrant maintenance committee will maintain the completed documents, and any associated correspondence regarding that inspection, for future reference. Files will be created for each hydrant and organized by address. Hydrant records will be maintained for 5 years.

## **5.2 Inspecting Hydrants:**

## **5.3 Maintaining Hydrants:**