

S.O.P. #: 400 - 06 A

SUBJECT: DRY HYDRANT, CISTERNS AND RURAL WATER TANK

DIVISION: EMERGENCY OPERATIONS

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Objective: Personnel will become familiar with the maintenance and repair procedures of the dry hydrants, cisterns and rural water tanks located throughout Baltimore County. This will include the inspecting and testing of the above after major storms involving high water, flooding and snow events.

Section 1: Dry Hydrant Maintenance

- A. Dry hydrants are to be inspected at least once a year by the career company assigned to complete the inspection in the Firehouse Software (NFIRS) Hydrant Module, per the guidelines of NFPA 1142. Volunteer companies are welcome to conduct the annual inspection for dry hydrants in their district. Dry hydrants located in an area that were impacted by high water, flooding and/or significant snow events (greater than 8 inches of snow) shall be inspected as soon as possible after the weather event is over and the area can be safely accessed.
- B. All weeds, grass and debris shall be kept clear of all dry hydrants.
- C. All caps are to be removed and the openings inspected for any debris and checked for a strainer in place.
- D. If possible, a visual check should be made to ensure that silt or other debris have not obstructed the intake opening of the pipe.
- E. All fittings shall be greased with an approved lubricant.
- F. The Company Commander upon completion of the dry hydrant(s) inspection will document the inspection(s) in the Firehouse Software (NFIRS) Hydrant Module. The Company Commander is responsible for completing the dry hydrant inspection form (Form 148).
  - 1. The district Fire Marshal will collect the form 148 (s) from the stations when they collect the form 145's.

- G. If any deficiencies are found that would make the dry hydrant inoperable, the Special Projects Inspector at the Fire Marshal's office should be contacted at 410-887-4882, Monday thru Friday from 0700 to 1700 hours. The dry hydrant shall be placed out of service in the Firehouse Software (NFIRS) Hydrant Module with specific information about the problems encountered. For nights, weekends and holidays, place the hydrant out of service in the Firehouse Software (NFIRS) Hydrant Module with specific information about the problems encountered. The problem(s) with the dry hydrant will be addressed by the Special Projects Inspector at the Fire Marshal's Office on the next business day.
- H. The Special Projects Inspector or their designee shall coordinate the repairs.

\* Unless done by a Volunteer company, Dry Hydrants that require back flushing will be done by the career engine company assigned to complete the inspection.\*

## Section 2: Underground Water Storage Tanks (UWST)

- A. All tanks are to be inspected/tested once a year by the career company assigned to complete the inspection in the Firehouse Software (NFIRS) Hydrant Module. Volunteer companies are welcome to conduct the annual inspection/test of UWST in their district. The Company Commander responsible for the inspection/test must enter the information from the inspection/test into Firehouse Software (NFIRS) Hydrant Module. The inspection form (Form 149) for UWST will be picked up by the district Fire Marshal when they collect Form 145's. UWST that are located in an area that were impacted by high water, flooding or significant snow events (greater than 8 inches of snow) will be inspected as soon as possible after the weather event is over and the area can be accessed safely.
- B. A drafting operation shall be conducted by the career or Volunteer Engine Company, noting the time it takes to obtain a draft. The water from the tank is to be circulated through the pump and back into the tank (Not more than 50 pounds discharge pressure).
- C. An entry should be made in the Firehouse Software (NFIRS) Hydrant Module noting the time for a draft to be obtained and any problems that may have occurred. If the tank is placed out of service, that information should be noted in the Firehouse Software (NFIRS) Hydrant Module as well.
- D. The procedure for notifying that the tank needs repair shall be the same as those used for the dry hydrants. (Refer to Section 1.G of this SOP).

E. Problems that may be encountered:

1. The tank or dry hydrant may not draft.
2. Intake is blocked by debris.
3. Piping may be cracked.
4. Water level is too low.
5. Pieces missing or damaged from system.
6. Signs missing or vandalized.
7. Piping itself is blocked by debris.

A complete inspection should be done.

F. Inspection

1. It will be the responsibility of the Company Commander to monitor any tanks located within their respective district.
2. An annual visual inspection shall be conducted that will include checking the general condition of all piping, ensuring proper access, and that the tank is full. .
3. If any repairs are required, the career Company Commander will follow the same procedure used for dry hydrants needing repair (Refer to Section 1.G of this SOP).
4. If the tank is found to be low on water by 2,000 gallons or less, the career or Volunteer engine company conducting the inspection will refill the tank. If the tank is found to be low on water by 2,000 gallons or greater, the career engine company will notify the Administrative Duty Officer (ADO) and provide an estimate of how much water will be required to refill the tank. The ADO will contact the Special Projects Inspector of the Fire Marshal's Office to have the tank refilled during normal business hours, Monday thru Friday from 0700 to 1700 hours. For nights, weekends and holidays, the ADO will contact the Fire Director of the Fire Marshal's Office, or designee, to have the tank refilled.
5. When the UWST is placed back in-service from repairs, the career Company Commander will document in the Firehouse Software (NFIRS) Hydrant Module that the UWST is back in-service.

### Section 3: Underground Water Storage Tank Usage

1. When an UWST is used on an incident, the following actions will be taken:
  - a. The Incident Commander will notify the ADO which UWST was used and the approximate gallons used. The ADO will notify the Special Projects Inspector at the Fire Marshal's Office during normal business hours, Monday thru Friday from 0700 to 1700 hours, to have the tank refilled. For nights, weekends and holidays, the ADO will contact the Fire Director of the Fire Marshal's Office, or designee, to have the tank refilled.
  - b. If 5,000 gallons or less is used on an incident, it will be the responsibility of the Incident Commander in conjunction with the respective Company Commander(s) to refill the tank using Fire Department vehicles.
  - c. Refilling of the UWST shall be accomplished as soon as practical.
  - d. The use of an UWST for non-emergency purposes is prohibited.
  
2. Notification
  - a. When an UWST is used for an incident, the Incident Commander will forward the following information to the Special Projects Inspector of the Fire Marshal's Office, within 24 hours.
    1. Incident Number
    2. Location of incident
    3. Property owner's name, address and phone number
    4. Insurance company name and address

### Section 4: Forms

1. Form 148 – Dry Hydrant Annual Inspection Report (Fire Department forms library, Appendix A) shall be used for each dry hydrant annual inspection.
2. Form 149 – UWST Annual Inspection Report (Fire Department forms library, Appendix B) shall be used for each UWST annual inspection.

**Baltimore County Fire Department  
Dry Hydrants  
Annual Inspection Report  
Form 148**

Box # \_\_\_\_\_ Address \_\_\_\_\_

Water Source \_\_\_\_\_ Water Level – Low / Normal / High (circle one)

	OK	Repair Needed		OK	Repair Needed
<b><i>Drafting</i></b>			<b><i>Visual Check</i></b>		
Draft Pipe			Sign		
Elbow			Post		
Connector			Stream Bed		
Gasket			Paint		
Chain			Cleanliness		
Cap					
Screen					
Swivel Connection					
Strainer					
Plastic Piping					
Bolts and Brackets					
Pipe Cradle					
Roller Assembly					
Rope					

COMMENTS:

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\_\_\_\_\_  
Date

\_\_\_\_\_  
Inspector Signature

\_\_\_\_\_  
Six Digit ID Number  
(Preceded by C or V)

**\*\*\*SEND TO THE FIRE MARSHAL'S OFFICE WITH FORM 145\*\*\***

**Baltimore County Fire Department  
Underground Water Storage Tanks and Cisterns  
Annual Inspection Report  
Form 149**

Box # \_\_\_\_\_ Address \_\_\_\_\_

Tank Size \_\_\_\_\_ Gallons Water Level-Visual/Gauge \_\_\_\_\_ / \_\_\_\_\_

	OK	Repair Needed		Ok	Repair Needed
<b><i>DRAFTING</i></b>			<b><i>VENT PIPE</i></b>		
Draft Pipe			Gauge		
Elbow			Plastic Piping		
Connection			Bolts		
Gasket			Vent Working		
Chain					
Cap			<b><i>VISUAL CHECK</i></b>		
Screen			Sign		
			Post		
<b><i>FILL PIPE</i></b>			Concrete Pad		
Fill Pipe			Paint		
Caps			Cleanliness		
Chain					
Screen			<b><i>DRAFT TEST</i></b>		
			<b>TIME TO PULL A DRAFT</b>		<b>SECONDS</b>

COMMENTS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Date

\_\_\_\_\_ Inspector Signature

\_\_\_\_\_ Six Digit ID Number  
(Preceded by C or V)

**\*\*\*SEND TO THE FIRE MARSHAL'S OFFICE WITH FORM 145\*\*\***