

[www.GotBigWater.com](http://www.GotBigWater.com)



Skaneateles Volunteer Fire Department  
Skaneateles, New York

Rural Water Supply Operations Seminar  
2-hr Water Supply Drill  
June 11, 2017  
Summary Report

# The Purpose

- The purpose of the seminar and drill was to review the basics of rural water supply operations and to practice water supply operations in a non-hydranted setting.
- The drill also allowed mutual aid companies to work together in a real-life training situation.



# The Seminar



- The 2-day seminar started on Saturday with a 1-hour classroom session to review the basics of drafting operations.
- The review session was held at the Skaneateles, NY Fire Department.
- Once the classroom part was done, the seminar continued with several hours of practical work on fill-site, single lane tank dump site operations, and use of a low flow hydrant.
- The program concluded on Sunday with the 2-hr ISO tanker shuttle exercise and program review.
- Seminar participants were from Onondaga County and Cayuga County, New York.

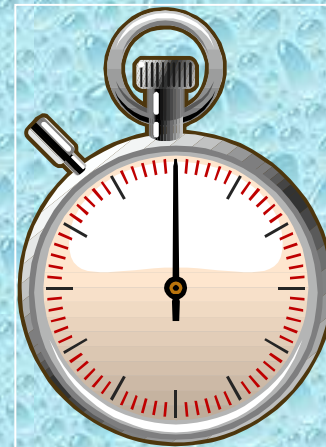
# The 2-hour Water Supply Drill

- The tanker shuttle drill was held on June 11<sup>th</sup> in Skaneateles.
- The drill attempted to replicate the 2-hour Water Supply Delivery Test used by ISO in their evaluation of fire department water supply capabilities.
- While everyone in the fire service may not agree on ISO's evaluation of fire department capabilities, the 2-hour test is still a reasonable standard by which fire departments can compare their water supply operations.



# The ISO Test

- The ISO 2-hour Water Supply Delivery Test has three critical time segments:
  - 0:00 to 5:00 minutes
  - 5:01 to 15:00 minutes
  - 15:01 to 120:00 minutes



# ISO Test *0:00 to 5:00 Minutes*

- A drill location is selected and the units due to respond on the first-alarm assignment are dispatched.
- Time starts when the first engine arrives on the scene and comes to a complete stop.
- There is no requirement to flow water during the first 5 minutes, but the crew must be prepared to flow water once the 5-minute mark is reached.



# ISO Test *5:01 to 15:00 minutes*



- At the 5-minute mark, a flow of at least 250 gpm must be started - and it must be sustained.
- During the next 10-minutes, crews can work to further develop their water supply and increase their flow, however...
- At the 15-minute mark ( 5+10), whatever amount of water is flowing at that time must be maintained for the remainder of the 2-hour test.

# ISO Test *15:01 to 120:00 minutes*

- Once the 15-minute mark has been reached, the remainder of the 2-hour test is really just about **sustaining** the flow.
- The ISO test includes the simulation of automatic mutual aid response and allows additional water supply units to arrive and assist in the delivery process as would happen on a real incident.
- The real advantage of the ISO test is that it gives a fire department the chance to see where improvements can be made in their water supply delivery process.



It is one thing to say that your fire department can deliver 500 gpm for two hours – it is another thing to prove it in a real-life drill scenario!



# Water Supply Drill Participants

- *The participants for the drill were from 8 different fire departments and the water hauling apparatus was representative of the type of water supply support that would respond to a structure fire in Onondaga County.*
- *Marcellus E1 – Attack Engine*
- *Skaneateles E31 – Dump Site Engine*
- *Baldwinsville E8 – Fill Site 1 (Stevens Pond)*
- *Amber E2 – Fill Site 2 (The Marina)*
- *Otisco TP1 – Remote Dump Site*
- ***Tanker Shuttle: Mottville (PT) E2, Otisco T1, Borodino T1, Amber T3, Skaneateles (PTs) E21 & 12, Sennett TP3***

# The Drill Begins



Marcellus Engine 1 was the first-arriving unit at the dump site and assumed the role as the attack pumper. The stopwatch was started when the Engine driver applied the air brakes. This unit supplied the Hose Monster flow diffuser through a length of 5" LDH. Skaneateles E31 and Mottville E2 (a PT) were close behind and set up the dump site. E31 supplied E1, and E2 dumped their water when the dump tanks were ready.

# The Dump Site

The dump site featured 3 single lane tanks set up in a driveway. Tankers could only dump in Tank #3. The dump site engine drafted from Tank #1 and fed the attack engine.

The goal was to keep Tank #1 filled, and Tank #3 empty so that tankers could dump efficiently.

To do this, jet siphons were set up to move water from:

- Tank #3 to Tank #1
- Tank #3 to Tank #2
- Tank #2 to Tank #1.

Fortunately, plenty of suction hose and jet siphons were on hand.



Tank #1 has a through the wall strainer adaptor – which is why you can't see the suction hose that is going to E31.

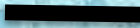

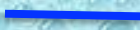

# Remote Dump Site

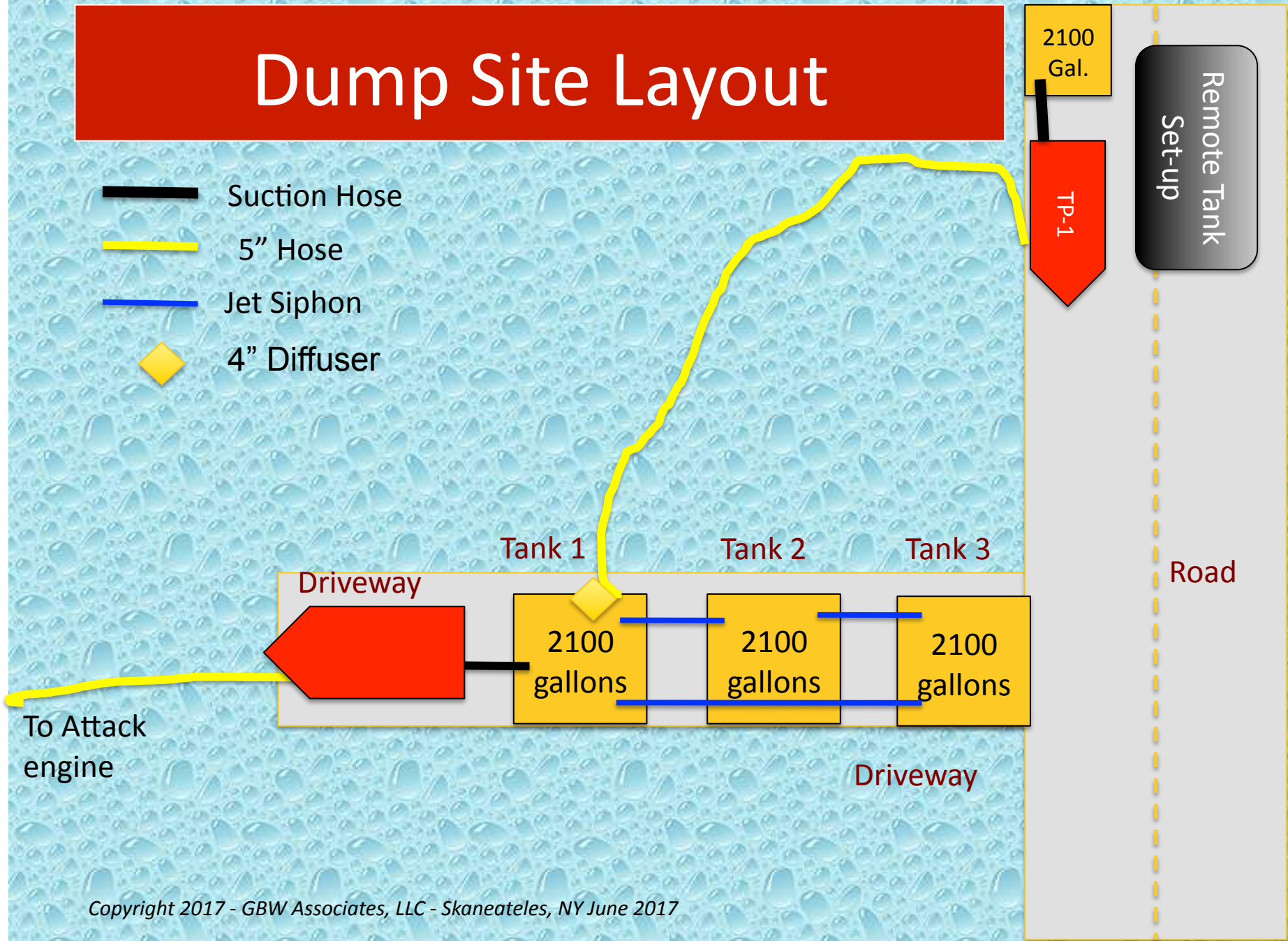
- A tanker/pumper without side dumps was sacrificed to set up a remote dump tank. This unit drafted from a 4<sup>th</sup> tank, and pumped the water off via LDH hose feeding a diffuser mounted on tank #1.
- This allowed more than one tanker to dump at once, and provided an additional 3600 gallons of storage capacity since the tanker/pumper could fill up and empty his on-board tank as needed.

Smart use of TP1 since he could not dump into tank #1 set up in the driveway.



# Dump Site Layout

-  Suction Hose
-  5" Hose
-  Jet Siphon
-  4" Diffuser



# The Fill Sites

- For this drill – two fill sites were used.
- The first fill site was located at Stevens Pond. This site provided about a 3.5-mile round trip.
- The spring fed pond provided ample water volume to support the drill and access was not really a problem. Baldwinsville E8 operated this site.
- The second site was at the Skaneateles Marina (on Skaneateles Lake) and obviously would never run out of water. This site provided about a 5-mile round trip. Amber E2 operated this site.

# Stevens Pond



- E8 laid various size lines from discharges to fill tankers directly. The lines were kept short to front and rear so as to minimize friction loss but long enough to allow two tankers to be hooked up so the crew could switch quickly from filling one to another.
- The hydrant is actually a dry hydrant fed by the pond to the left. There was almost no lift.

# The Marina



E2 laid 450' of 4" to a manifold to fill tankers. This 1000 gpm pumper used a 5" suction line and a 2.5" suction line to make the effective capacity over 1000 gpm. The hood is up due to the engine running hot – it was later discovered that the relief valve was open causing the rpms to be way up. After this was corrected, rpms went down and so did the engine temperature! This crew was filling most tankers at over 1000 gpm – great job!



# Fill Site Operations

- Stevens Pond had to bring tankers past the fill site, turn them around, and then position them in front of the engine for filling. After this was figured out it worked well.
- At the Marina, E2 was pumping up a significant hill but due to the use of LDH was able to fill all tankers at a great rate without any issues. Tankers were able to back into the fill site so that they could then pull out to head to the dump site.

# The Results

- The drill was stopped at the 2:00-hour mark.
- The initial target flow was 500 gpm.
- Water flow was interrupted a few times during the early going but was then never lost after the 23-minute mark. At the 69-minute mark, flow was upped to 750 gpm.
- An estimated 59,750 gallons of water were flowed through the attack engine during the drill producing an average flow rate of 519 gpm.

# The Lessons Learned

- At this drill, the dump site was set-up very quickly and crews really hustled to try to sustain the water flow in the early stages. The non-traditional set up of the tanks stacked up in the driveway took some time to figure out.
- The use of the remote 4<sup>th</sup> dump tank was a novel way to utilize the (rear dumping only) tanker/pumper from Otisco and worked well to provide multiple tankers a chance to dump quickly without waiting.

# The Lessons Learned

- A tanker fill-site needs to run like a NASCAR pit stop. Anything that slows down the loading of tankers is going to reduce the efficiency of the tanker shuttle.
- At this drill, some fill ports had Storz fittings and some had NST threaded connections. The Storz fittings clearly were easier to make and break.

# The Lessons Learned

- Jet siphons, suction hose, and dump tanks are needed at most every dump tank operation – therefore, it is wise to carry those items on every tanker.
- The “bundling” of water hauling mutual aid resources has proven successful in many drills. The tanker task force concept again proved to be an effective process for requesting and using additional rural water supply resources.

# The Lessons Learned

- One of the engines was carrying 5” hard suction hose due to having a 1000 gpm pump. It is ok to carry larger suction hose for this pump – and this would make the suction hose compatible with all of the others in the County. The pumper did carry pony suctions which helped it improve its output capacity.

# Summary

- The drill was a success. For the new folks, they got to see how dump tank operations work.
- For the older, experienced folks, it was a chance to practice their “craft.”
- The success of the drill showed the importance of mutual aid response practices and procedures – and the importance of mutual aid interoperability.
- Many thanks to the Skaneateles VFD for sponsoring and hosting this seminar.



[www.GotBigWater.com](http://www.GotBigWater.com)

*This program was developed by  
GBW Associates, LLC  
Copyright © 2017  
No part may be used or copied  
without expressed written consent.*

*For more information contact us at  
**[thebigcamel@gotbigwater.com](mailto:thebigcamel@gotbigwater.com)***