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**Broad Brook Fire Department  
Broad Brook, Connecticut**

**Rural Water Supply Operations Seminar  
2-hr Water Supply Drill – 1,000 GPM Club  
April 26, 2026  
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.



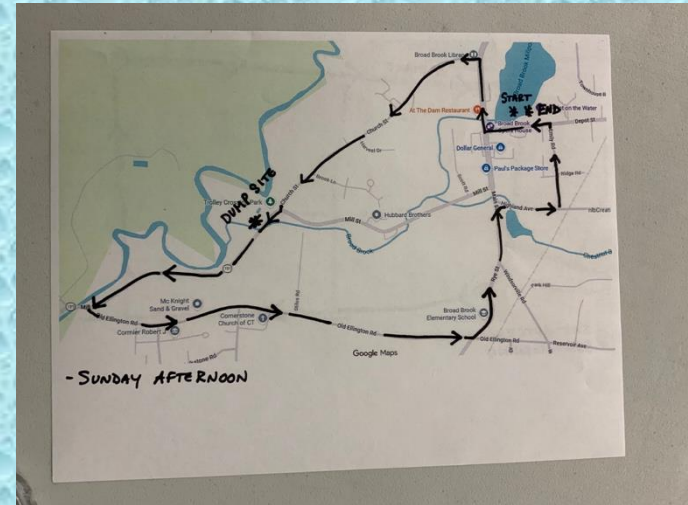
# The Seminar



- The 2-day seminar started with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the Broad Brook fire station.
- Once the classroom part was over, the seminar continued with 8 hours of practical work on fill-site and dump site operations.
- The program concluded with the 2-hr ISO tanker shuttle exercise and program review.
- Seminar participants were from Broad Brook and the surrounding area.

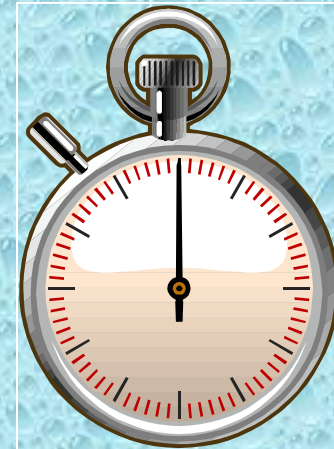
# The 2-hour Water Supply Drill

- The tanker shuttle drill was held on April 26<sup>th</sup> at the Trolley Crossing Park.
- 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 ISO no longer uses the physical demonstration of water supply delivery, the 2-hour test is still a reasonable standard by which fire departments can compare their water supply operations.
- *ISO now uses computer modeling to predict tanker shuttle flow capabilities.*



# 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

<b>Participants</b>				
<b>Department</b>	<b>Unit</b>	<b>Pump Size</b>	<b>Tank Size</b>	<b>Dump Tank</b>
Broad Brook	Engine Tanker 139	2000 gpm	2500 gal	3000 gal
Broad Brook	Engine Tanker 339	1250 gpm	1000 gal	3000 gal
Thompsonville	Engine 21	1500 gpm	500 gal	NA
Marlborough	Tanker 217	1000 gpm	1800 gal	2000 gal
Andover	Tanker 115	1500 gpm	3000 gal	3000 gal
Muddy Brook	Tanker 175	1500 gpm	3500 gal	NA
Somers	Tanker 146	1500 gpm	3000 gal	3500 gal
East Granby	Tanker 408	1500 gpm	3000 gal	4000 gal
Mansfield	Tanker 307	1250 gpm	3000 gal	3000 gal
Norfolk	Tanker 100	500 gpm	3000 gal	(2) 3000 gal
South Windsor	Engine 4	1500 gpm	750 gal	NA
East Haddam	Tanker 215	500 gpm	2000 gal	2000 gal
Lost Acres	Tanker 6	1000 gpm	3000 gal	3000 gal
Warehouse Point	Engine 138	1500 gpm	750 gal	NA
Hebron	Tanker 110	1000 gpm	3000 gal	3500 gal
Ellington	Tanker 143	1500 gpm	3000 gal	NA

- *The participants for the drill were from several different fire departments in the Broad Brook region and the water hauling apparatus was representative of the type of water supply support that would respond to a structure fire in the Broad Brook area.*

# The Drill Begins



The drill started with crews executing a rural hitch operation using a 5" double-clappered siamese. Warehouse Point Engine 138 arrived on location and laid out 800-ft of 5-inch LDH. Broad Brook Engine/Tanker 139 arrived next and supplied water to the siamese.

# Dump Site Operations



Water flow started at 300 gpm at the 2-minute mark and additional tankers began arriving on location.

# Dump Site Operations



With the rural hitch being used to supply water to the attack pumper, crews began setting up for dump tank operations using the equipment carried on ET139.

# Dump Site Operations



By the 15-minute mark, a 2-dump tank operation was just about set up and water flow was at 500 gpm.

# Dump Site Operations



Additional tankers supported the rural hitch while the dump site was being set up.

# Dump Site Operations



Two suction lines were set up from the beginning; a 6-inch using the driver's side suction inlet and a second, 6-inch using the front suction inlet.

# Dump Site Operations



At 20-minutes, flow was switched from the rural hitch to a dump tank operation.

# Dump Site Operations



Twin Holley transfer pipes were used for the initial water transfer between the first dump tanks (3000 and 3500 gal).

# Dump Site Operations



By the 27-minute mark, crews were beginning to set up a third dump tank (3500 gal) in preparation for a flow increase.

# Dump Site Operations



As flow increased, the need to dump two or more tankers at a time increased. The large dump tanks helped accommodate that process.

# Dump Site Operations



Flow was moved to 1000 gpm at the 38-minute mark using three dump tanks. Water transfer operations became critical to keeping the water flowing.

# Dump Site Operations



At the 56-minute mark, flow was moved to 1300 gpm using triple, 6-inch suction lines and four, jet siphon water transfer devices.

# Dump Site Operations



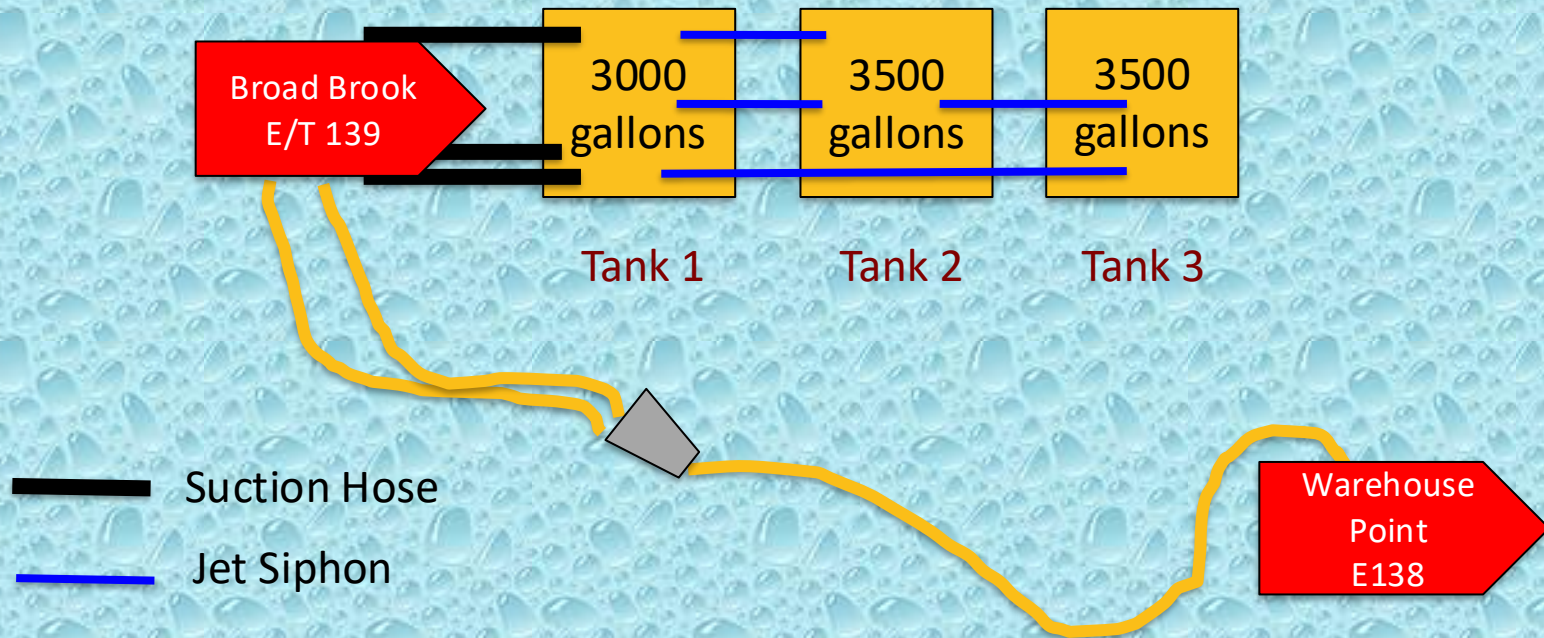
At the 90-minute mark, flow was moved to 1800 gpm using both of ET139's, 4-inch high-flow discharges.

# Dump Site Operations



Water flow was never once interrupted during the 2-hour drill and flow was measured using a hand-held pitot and smooth bore nozzle devices.

# Dump Site Layout



# The Fill Sites

- For this drill – two fill sites were used – both located at the Broad Brook Mill Pond.
- The fill sites both provided about a 3.0-mile round trip for the units hauling water.
- Both sites had ample water volume to support the drill, and access was not a problem.
- A 1250 gpm and 1500 gpm pumper were used at the fill sites to load tankers.

# Mill Pond Fill Site #1



South Windsor Engine 4 drafted through a dry fire hydrant and loaded tankers using 5-inch LDH

# Mill Pond Fill Site #2



Broad Brook Engine/Tanker 339 drafted directly from the pond and also loaded tankers using 5-inch LDH.

# The Results

- The drill was stopped at the 2-hour mark.
- Water flow was never interrupted!
- An estimated 131,600 gallons of water were flowed through the attack pumper during the drill producing an average flow rate of 1,115 gpm.
- For the last 82-minutes of the drill a flow of 1,000 gpm or greater was supplied.
- For the last 30-minutes, a flow of 1,800 gpm or greater was supplied!
- The performance resulted in the participants being awarded membership in the Got Big Water 1,000 GPM Club!

# The Lessons Learned

- At this drill, crews chose to use a rural hitch operation to get things started.
- Using the rural hitch gave the crews time to get two dump tanks set-up without the added pressure of having to draft and flow water right away.
- Once the dump tanks were up and running, the operation ran flawlessly.

# The Lessons Learned

- As the flow increased, additional suction lines were added, as were additional dump tanks.
- The use of a large-body pump powered by sufficient motor horsepower at the dump site allowed one rig to supply the entire operation.
- The dump site pumper, Engine/Tanker 139 was able to supply a peak flow of 1800 gpm to the simulated fire ground and feed water to four jet siphons!

# 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, there was little variance in how the tankers loaded – meaning the fill connection. Tankers were loaded fast and were back on the road in little time to the dump site.

# 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 – as well as adaptors.
- By using a large-capacity engine/tanker as the dump site pumper, equipment was already present to get dump tank operations set-up (dump tank, jet siphons, etc).

# Drill Videos

**Be sure to watch videos from  
the drill on the  
GotBigWater  
YouTube Channel.**

# 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 Broad Brook Fire Department for sponsoring and hosting the seminar.



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