General Order Number: 06-35	Effective Date: September 21, 2020			
Division: Emergency Operations				
Chapter: Alternative Water Supply Operations				
By Order of the Fire Chief: Tiffany D. Green	Issue Date: September 21, 2020			

POLICY

This General Order establishes the standard operating procedure to establish an adequate water supply for operations in areas without municipal water supplies, or in areas in which municipal water supplies are not adequate to facilitate a required fire flow.

These procedures are designed to provide a framework for safe operations when dealing with water supply operations on structural fire incidents in residential, commercial and mercantile type buildings within Prince George's County. **All units/personnel assigned to the fireground shall refer to** *General Order 06-01*, *Standard Operating Procedures for Structural Fires*.

DEFINITIONS

Attack Pumper – The engine company that is supplying hand lines for fire attack.

Certifiable Source – A water supply capable of supplying a 250gpm flow for two (2) hours.

Command Officer – Career and Volunteer Chief Officers as established in *General Order 1-03*, *Chain-of-Command*.

Draft Basin (Dump Tank) – Portable water storage device with typical capacity of 2000-3500 gallons; used during tanker shuttles for off-loading tankers and for on-scene water storage utilized by the supply pumper.

Draft Site Pumper – Engine company supplying water to tanker at a fill site from a static water source.

Dump Site – Designated tanker off-load area reserved for draft basins and the dump site pumper.

Dump Site Pumper – Engine company drafting from draft basin/s to supply attack pumper.

Dump Site Supervisor – The unit driver/operator that established the dump site or Water Supply Company OIC.

Fill Site – Designated tanker fill area near water source; supplied by draft site pumper.

Fill Site Supervisor – The unit Officer-in-Charge that established the fill site.

Fill Site Pumper – Engine company supplying water to tanker fill site from a hydrant.

Fireground – Specific geographical area immediately surrounding and including a structure on fire.

Incident Commander (IC) – The individual who has established or assumed command and is in control of all groups/divisions on an incident.

Large Diameter Hose (LDH) – Supply hose 4" or greater.

Rapid Intervention Crew (RIC) – A crew specifically designated by the IC, in accordance with *General Order 06-03, 2-In, 2-Out and Rapid Intervention*, whose sole responsibility is the rescue of members in distress. For the purpose of this General Order, the RIC will be a single resource.

Rapid Intervention Group (RIG) – A group specifically designated by the IC, in accordance with *General Order 06-03*, 2-In, 2-Out and Rapid Intervention, whose sole responsibility is the rescue of members in distress. A company arriving after RIC has been established will form the rapid intervention group.

Relay Operations – When two or more engines are used to supply water through a supply line.

Non-Hydrant "Rural" Water Supply Taskforce – Two (2) tankers, one (1) engine company, and the Water Supply Company (if not already dispatched).

Safety Tanker – Tanker that will provide a back-up source of water in case of a water supply failure, or as needed in support of RIT operations.

Secondary Water Supply – Water supply that has been established from a source other than the hydrant or static water supply utilized by the first arriving engine.

Tanker – Specialized mobile water supply unit utilized to shuttle water from a water source to dump site. Typical capacity is greater than 2000 gallons with fill and dump rates of 1000gpm. Tankers are operated by a single driver without the need for additional direct support.

Unit Officer-In-Charge (OIC) – Company officer or highest-ranking individual in charge of a specific unit (engine, truck, squad, ambulance, etc.), responding in the officer's seat of the apparatus.

Water Supply Group – A group specifically designated by the IC, whose sole purpose is to carry out water supply operations.

Water Supply Group Supervisor – Incident Commander, designated Command Officer or Unit OIC supervising the "Water Supply Group" during an emergency incident. This role shall automatically be assumed by the 2^{nd} Due Command Officer dispatched on an incident.

PROCEDURES / RESPONSIBILITIES

I. General Provisions

A. Organizational

1. The following provisions pertain to all types of alarms and building types in non-hydrant areas or areas without adequate water supply, and will be adhered to by all personnel.

B. Dispatching Requirements

- 1. In non-hydrant areas or areas without adequate water supply, Public Safety Communications (PSC) will dispatch the following additional units:
 - a) One (1) engine company (Fill Site Company)
 - b) One (1) Water Supply Company
 - c) Four (4) tankers

C. All Personnel

1. All personnel moving from apparatus to the fireground are responsible to assist with moving supply hose from the driveway to facilitate apparatus movement.

II. Responsibilities

A. Incident Commander

- 1. Must determine the need for and mode of an alternative water supply.
- 2. The IC will assign a Water Supply Group Supervisor on all incidents where a tanker shuttle or pumper relay is to be utilized, or where the number of units being supervised exceeds the IC's span of control. The role of Water Supply Group Supervisor shall automatically be assumed by the 2nd Due Command Officer dispatched on an incident.
- 3. The IC will designate (in coordination with PSC) an operations talk group separate from the fireground talk group for the Water Supply Group. Units operating within the Water Supply Group will be directed to switch to this talk group after an initial size-up has been performed and a working incident has been declared. The Water Supply Group assignments/radio designations shall include the following:
 - a) Water Supply Group Supervisor
 - b) Fill Site Supervisor
 - c) Dump Site Supervisor

4. The IC will communicate with the following water supply group components on the fireground talk group: 1st due engine operator, dump site pumper operator, fireground tanker/safety tanker and the Water Supply Group Supervisor.

B. Unit Officers

- 1. A water supply site shall be identified early in the incident (during the initial response) by the 1st due engine OIC. The location of the draft/fill site shall be communicated to all responding units; specifically, the 5th due engine company (Fill Site Company). The designated site should be a certifiable source. Site-specific or other non-certifiable water supplies may be utilized for an initial attack but should not be designated to supply a tanker shuttle or pumper relay.
- 2. Due to the tedious nature of draft/fill site set-up and operations, the draft/fill site engine (5th due engine) will retain its staffing. The crew shall NOT be deployed to the fireground without direction of the IC in coordination with the Water Supply Group Supervisor.
- 3. Unit Officers shall immediately communicate an inability to carry out any predetermined responsibilities to the 1st Due Command Officer/Incident Commander.

C. Water Supply Group Supervisor

- 1. The Water Supply Group Supervisor shall:
 - a) Ensure all Water Supply personnel operate in a safe manner.
 - b) Coordinate with IC the fire flow required and adjust water supply as necessary.
 - c) Ensure appropriate fill and dump sites have been established, and supervisors assigned to each if not completed by IC.
 - d) Notify IC when water supply is established.
 - e) Ensure that adequate flow is being provided to the fireground.
 - f) Request appropriate additional resources as needed via the Incident Commander.
 - g) Identify a secondary water supply in case of escalation or primary water supply failure.
- 2. The Water Supply Group Supervisor shall monitor both the fireground talk group and the water supply operations talk group.

D. Dump Site Supervisor

- 1. The Dump Site Supervisor shall:
 - a) Ensure appropriate use of the siamese valve by tankers until draft basins are set up.
 - b) Ensure the placement of draft basins and water supply apparatus allows for special service access.

- c) Brief all tanker operators on fill site location/running route.
- d) Control public roadway in coordination with law enforcement to ensure personnel safety.
- e) Ensure dump site can supply required fire flow.
- f) Expand dump site as necessary to support required fire flow.
- g) Notify Fill Site Supervisor when tankers leave the dump site.
- h) Make necessary requests for resources through the Water Supply Group Supervisor.

E. Fill Site Supervisor

- 1. The Fill Site Supervisor (normally the Unit OIC that established the site) shall:
 - a) Ensure the draft/fill site layout facilitates rapid fill times and safe tanker operations.
 - b) Ensure a fill rate of 1000gpm.
 - c) Notify the Dump Site Supervisor when full tankers are enroute to the dump site.
 - d) Monitor fill times and make necessary requests for resources through the Water Supply Group Supervisor.

III. Non-Relay Operations – Unit Objectives/Task Assignments

A. 1st Due Engine

- 1. The 1st due engine is responsible to:
 - a) Identify and communicate the location of the primary water supply site (fill site).
 - b) Take steps to establish a continuous water supply. This will normally be accomplished by use of a forward or straight lay from the closest appropriate hard surface or static water supply. The use of LDH or dual 3" supply lines should be utilized.

B. 2nd Due Engine (Operator Only) - Crew will report to fireground

- 1. The dump site engine operator (dump site pumper) will act as the dump site supervisor and is responsible to ensure the following:
 - a) The entrance to the driveway remains clear for special service access.
 - b) The siamese valve is used appropriately in conjunction with tankers to ensure uninterrupted water supply and to prevent a "nurse-tanker operation."
 - c) Dump tanks are set up leaving at least one (1) full travel lane for tanker shuttle traffic.
 - d) Assist with retrieving dump tanks and all appropriate appliances for dump site from the 1st and 2nd due tankers.
 - e) Notify the IC and/or Water Supply Group Supervisor as soon as the dump site is set up.

C. 3rd Due Engine (Operator Only) - Crew will report to fireground

- 1. The 3rd due engine operator is responsible to ensure the following:
 - a) Position apparatus near dump site in a way that does not hinder additional apparatus arrival and positioning. The unit should be able to be redeployed if deemed necessary by the Water Supply Group Supervisor.
 - b) Assist/coordinate with the dump site engine operator to set up the dump site.
 - c) Staff the dump site or act as Dump Site Supervisor as directed by the Water Supply Group Supervisor.

D. 4th Due Engine (Operator Only) - Crew will report to fireground

- 1. The 4th due engine operator is responsible to ensure the following:
 - a) Position apparatus near dump site in a way that does not hinder additional services and be able to be redeployed if deemed necessary by the Water Supply Group Supervisor.
 - b) Assist/coordinate with the dump site engine operator to set up the dump site.
 - c) Staff the dump site or act as the Dump Site Supervisor as directed by the Water Supply Group Supervisor.

E. 5th Due Engine (Fill Site Company)

- 1. The 5th due engine company is responsible to ensure the following:
 - a) Establish a tanker fill site at the closest appropriate water supply as designated by the 1st due engine company OIC-during initial response.
 - (1) Immediately communicate any inability to carry out this responsibility to the 1st Due OIC/IC so that other resources may be assigned to assist.
 - b) The 5th due engine company OIC shall assume the role of Fill Site Supervisor.

F. Water Supply Company

- 1. The Water Supply Company is responsible to ensure the following:
 - a) Respond to the Dump Site and provide operational support unless otherwise directed by the IC.
 - b) The Water Supply Company OIC will assume the role of Dump Site Supervisor.

G. 1st Due Tanker

- 1. The 1st due tanker is responsible to ensure the following:
 - a) The placement of a siamese valve at the end of the supply line to ensure uninterrupted water supply.
 - b) Position apparatus in a way as to facilitate dump site set-up and to allow additional services access to the fireground.

- c) Charge supply line via siamese valve to supply fireground. The 1st due tanker should utilize its initial load of water to supply the fireground supply line directly while the dump site is established.
- d) Assist 2nd due engine operator with deploying dump site equipment and appliances.
- e) When initial load of water is completely supplied to fireground, enter tanker shuttle.
- 2. The 1st due tanker is responsible to deploy the following equipment at the dump site in coordination with the dump site pumper operator:
 - a) Draft basin (dump tank) with ground cover
 - b) Two (2) 10' sections of hard suction sleeve
 - c) Low level drafting strainer
 - d) Any adapters, as needed

H. 2nd Due Tanker

- 1. The 2nd due tanker is responsible to ensure the following:
 - a) Charge supply line via siamese valve or if the dump site is established, dump initial load of water into the draft basin.
 - b) Operate safely in tanker shuttle.
- 2. The 2nd due tanker is responsible to deploy the following equipment at the dump site in coordination with the dump site pumper operator:
 - a) Second draft basin (dump tank) with ground cover
 - b) Two (2) 10' sections of hard suction sleeve
 - c) Low level drafting strainer with jet-siphon capability
 - d) A transfer device (Holley Transfer Pipe) may be substituted for b) and c)

I. Additional Tankers

- 1. Respond to the dump site and report to the Dump Site Supervisor.
- 2. Operate in tanker shuttle operations as required.

J. All Tankers

- 1. All tankers are responsible to ensure the following:
 - a) Operate safely in tanker shuttle.
 - b) Know the running route for dump/fill sites.
 - c) Ensure proper fill and dump techniques are utilized.
 - d) Communicate any limitations or concerns to the Water Supply Group Supervisor.
 - e) Use extreme caution when operating on public road-ways, when backing and operating at dump/fill sites.

IV. Relay Operations – Unit Objectives/Task Assignments

- A. 1st Due Engine
 - 1. The 1st due engine is responsible to ensure the following:
 - a) Identify and communicate the location of the primary water supply site (tanker fill site).
 - b) Identify and communicate the need for a pumper relay or unusual supply layouts.
 - c) Take steps to establish a continuous water supply. This will normally be accomplished by use of a forward or straight lay from a point which will maximize the effectiveness of available supply hose. The use of LDH or dual 3" supply lines should be utilized.
 - d) Consider staging units until relay instructions are provided.
- B. 2nd Due Engine (Operator Only) Crew will report to fireground

 If a pumper relay is required to supply the fireground from the designated dump
 site, which puts the 2nd due engine in the middle of the relay, the 3rd or 4th due
 engine may be required to act as the dump site pumper.
 - 1. The 2nd due engine is responsible to ensure the following:
 - a) Perform a forward lay from a point determined by first arriving units.
 Note- The use of large diameter supply hose is preferred for long layouts and relays.
 - b) Position in a way as to not hinder access of other fireground units.
 - c) Assist in moving supply hose to side of the driveway to allow access for additional fireground units.
- C. 3rd Due Engine (Operator Only) Crew will report to fireground
 - 2. The 3rd due engine operator is responsible to ensure the following:
 - a) Relay NOT completed from predetermined Dumpsite
 - (1) Perform a forward lay from point determined by first arriving units. Note - The use of large diameter supply hose is preferred for long layouts and relays.
 - (2) Position in a way as to not hinder access of other fireground units.
 - (3) Assist in moving supply hose to side of driveway to allow access for additional fireground units.
 - b) Relay Completed
 - (1) Provide support to the Dump Site Pumper or act as the Dump Site Pumper/Dump Site Supervisor

- D. 4th Due Engine (Operator Only) Crew will report to fireground
 - 1. The 4th due engine operator is responsible to ensure the following:
 - a) Relay NOT completed from predetermined Dumpsite.
 - (1) Perform a forward lay from point determined by first arriving units.

 Note The use of large diameter supply hose is preferred for long layouts and relays.
 - (2) Position in a way as to not hinder access of other fireground units.
 - (3) Assist in moving supply hose to side of driveway to allow access for additional fireground units
 - b) Relay Completed.
 - (1) Provide support to the Dump Site Pumper or act as the Dump Site Pumper/Dump Site Supervisor
 - c) If the need for a pumper relay prevents the 2nd, 3rd, and 4th due engine operators from staffing the dump site, the entire staffing compliment of the 4th due engine company shall be dedicated to staffing the Dump Site.
 - (1) The Water Supply Company may relieve the 4th due engine company of this task.
 - (2) This should be communicated to the IC so that additional resources may be requested, if necessary, to establish the Rapid Intervention Crew (RIC).

E. 5th Due Engine - (Fill Site Company)

- 1. The 5th due engine company is responsible to ensure the following:
 - a) Establish a tanker fill site at the closest appropriate water supply as designated by the 1st due engine company OIC-during the initial response.
 - (1) Immediately communicate any inability to carry out this responsibility to the 1st Due OIC/IC so that other resources may be assigned to assist.
 - b) The 5th due engine company OIC shall assume the role of Fill Site Supervisor.

F. Water Supply Company

- 1. The Water Supply Company is responsible to ensure the following:
 - a) Respond to the Dump Site and provide operational support unless otherwise directed by the Incident Commander.
 - b) The Water Supply Company OIC will assume the role of Dump Site Supervisor.

G. 1st Due Tanker

- 1. The 1st due tanker is responsible to ensure the following:
 - a) The placement of a siamese valve at the end of the supply line to ensure uninterrupted water supply.
 - b) Position apparatus in a way as to facilitate dump site set-up and to allow additional services access to the fireground.

- c) Charge supply line via siamese valve to supply fireground. The 1st due tanker should utilize its initial load of water to supply the fireground supply line directly while the dump site is established.
- d) Assist dump site pumper operator with deploying dump site equipment and appliances.
- e) When initial load of water is completely supplied to fireground, enter tanker shuttle.
- 2. The 1st due tanker is responsible to deploy the following equipment at the dump site in coordination with the dump site pumper operator:
 - a) Draft basin (dump tank) with ground cover
 - b) Two (2) 10' sections of hard suction sleeve
 - c) Low level drafting strainer
 - d) Any adapters, as needed

H. 2nd Due Tanker

- 1. The 2nd due tanker is responsible to ensure the following:
 - a) Charge supply line via siamese valve or if dump site is established, dump initial load of water into the draft basin.
 - b) Operate safely in tanker shuttle.
- 2. The 2nd due tanker is responsible to deploy the following equipment at the sump site in coordination with the dump site pumper operator:
 - a) Second draft basin (dump tank) with ground cover
 - b) Two (2) 10' sections of hard suction sleeve
 - c) Low level drafting strainer with jet-siphon capability
 - d) A transfer device (Holley Transfer Pipe) may be substituted for b) and c)

I. All Tankers

- 1. All tankers are responsible to ensure the following:
 - a) Operate safely in tanker shuttle.
 - b) Know the running route for dump/fill sites.
 - c) Ensure proper fill and dump techniques are utilized.
 - d) Communicate any limitations or concerns to the Water Supply Group Supervisor.
 - e) Use extreme caution when operating on public roadways, when backing and operating at dump/fill sites.

V. Special Considerations

A. Fireground Tanker

- 1. In pumper relay situations, it may be advantageous to utilize the 1st due tanker in tandem with the attack/1st due engine. This will allow an immediate and sustained 6-10 minute attack (depending on tanker size) utilizing two (2) attack lines while a pumper relay is established from the dump site to the fireground. The utilization of a fireground tanker may be utilized when the following criteria are met:
 - a) The supply layout requires more than one (1) engine company to complete.
 - b) The 1st due tanker will arrive before the 3rd due engine company.
- 2. The following actions must be taken:
 - a) 1st Due Engine Company
 - (1) Unit OIC shall communicate the need for a supply relay.
 - (2) Unit OIC shall direct the 1st due tanker to proceed to the fireground.
 - (3) Request that the tanker be replaced in the assignment
 - b) 1st Due Tanker
 - (1) Proceed to the fireground at the direction of the 1st due engine company OIC.
 - (2) Use extreme caution accessing fireground and if possible position to allow access for additional services.
 - (3) Supply 1st due engine company directly.
 - c) 1st Dispatched Command Officer
 - (1) Ensure the 1st due tanker is aware of operation.
 - (2) Notify 2nd and 3rd tankers that they are now assigned 1st and 2nd due responsibilities.

B. Safety Tanker

- 1. It is often impractical or impossible to lay a second (independent) supply line from the dump site to the fireground. However, every effort must be made to provide a safety factor for personnel operating on a working incident. In non-relay operations where a fireground tanker is not initially used, an available tanker shall be utilized as the safety tanker at the fireground. This safety factor will provide a back-up source of water in case of water supply failure or as needed in support of RIC operations.
- 2. The following criteria must be met in order to utilize a tanker as the safety tanker:
 - a) Operating in a non-relay situation without a fireground tanker.
 - b) Working incident (Working Fire Dispatch requested).
 - c) As directed by the IC.

- 3. The following actions must be taken:
 - a) Incident Commander
 - (1) IC shall direct a tanker to report to the fireground and act as the safety tanker.
 - (2) Notify the Water Supply Officer and request additional tanker if necessary to support required fire flow.
 - b) Safety Tanker
 - (1) Proceed to the fireground at the direction of the IC.
 - (2) Use extreme caution accessing fireground and if possible position to allow access for additional services.
 - (3) Supply 1st due engine company directly and RIC hose line if necessary or as directed.
 - c) All Personnel
 - (1) All available personnel are responsible to assist with guiding the safety tanker to the fireground and moving supply lines as necessary.

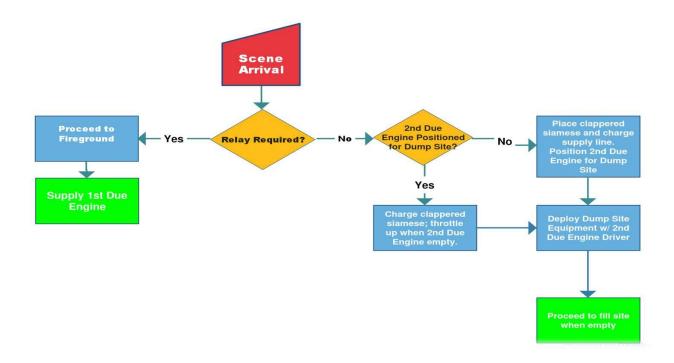
REFERENCES

General Order 06-01, Standard Operating Procedures for Structural Fires NFPA 1142 (2017 Edition)
Pump Operator Handbook (2015, Third Edition), IFSTA
Rural Firefighting Operations (August 2002), Larry Davis
The Fire Department Water Supply Handbook (March 1994), William Eckman

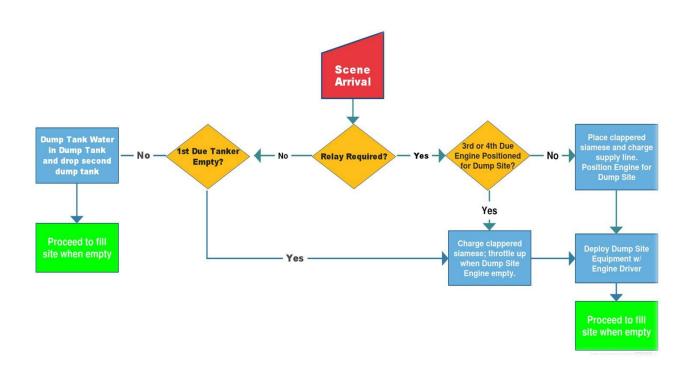
FORMS / ATTACHMENTS

Attachment A – Tanker Decision Algorithm Attachment B – Unit Responsibilities Quick Reference Chart

1st Due Tanker Decision Algorithm



2nd Due Tanker Decision Algorithm





Alternative Water Supply - Unit Responsibilities Quick Reference Chart



NON-RELAY OPERATIONS

	1st Engine	2nd Engine	3rd Engine	4th Engine	5th Engine	Water Supply Company	Tanker 1	Tanker 2	Tanker 3	Tanker 4
	1. Identify fill site	1. Dump site	1. Assist 2nd	1. Assist 2nd	1. Reports to	1. Report to	1. Supply 1st Engine from	1. If dump site is not	Report to	Report
Unit	location.	pumper &	Engine with	Engine with	fill site	Dump site and	dump site location.	established, supply fire	Dump	to dump
	2. Determine dump	driver is the	dump site,	dump site,	2. Establish	OIC becomes	2. Set up dump tank.	ground with tank water.	site	site
	site	dump site	unless	unless	water supply	dump site	3. Provide Siamese, 2	2. Drop 2nd dump tank,		
	3. Lay LDH or dual 3"	supervisor.	redeployed by	redeployed by	3. OIC	supervisor	hard sleeves, low level	2 had sleeves, low level		
	to scene	2. Ensure	IC	IC	becomes fill		drafting strainer,	drafting strainer or		
		access to fire			site supervisor		adapters as needed.	Holley transfer pipe.		
		ground.					4. Dump water, enter	3. Drop water in tank,		
		3. Set up dump					water shuttle	enter water shuttle		
		tanks from 1st								
		tanker								

RELAY OPERATIONS

	1st Engine	2nd Engine	3rd Engine	4th Engine	5th Engine	Water Supply Company	Tanker 1	Tanker 2	Tanker 3	Tanker 4
Unit	2. Establish pumper relay layout plan3. Lay LDH or dual 3"4. Consider staging units until layout plan is established	forward lay as directed by 1st Eng, use LDH or dual 3". 2.Do not hinder fireground units.	relay if directed using LDH or dual 3". 2. If relay complete, establish dump site, driver will be	relay if directed using LDH or dual 3". 2. If relay complete, establish dump site, driver will be		OIC becomes	dump site location.	1. If dump site not established, supply fire ground with tank water. 2. Drop 2nd dump tank, 2 had sleeves, low level drafting strainer or Holley transfer pipe. 3. Drop water in tank, enter water shuttle		Report to dump site
		3. Move supply hose to side of driveway for access	·	dump site supervisor.						

^{**:} In certain circumstances a Tanker may being used in tandem with 1st Engine, further unit responsibilities will require coordination from IC