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S.O.P. #: TACTICAL OPERATIONS MANUAL 31  
SUBJECT: NON-HYDRANT OPERATIONS  
DIVISION: EMERGENCY OPERATIONS

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**Objective:** To create a framework which defines roles, responsibilities, and resource utilization to ensure that an adequate water supply is in place to allow for firefighting operations at incidents occurring in non - hydranted response areas.

**Scope:** At all times the Incident Commander (IC) retains the authority to deviate from these tactical guidelines to address specific incident needs. These guidelines are designed to facilitate incident management by the assignment of responding units with pre-designated assignments and tasks. When jobs and supervisors are being assigned, personnel with expertise and knowledge should be given consideration for these assignments regardless of rank.

### Section 1: Definitions

A. **Water Supply Group Supervisor** - Assigned person who is responsible to oversee all water supply operations. Their main goal shall be to establish and maintain adequate water supply to provide the required fire flow to the incident.

B. **Dump Site** - The location where units on the incident discharge their water supply for use on the incident scene.

Examples of Dump Sites: (Refer to appendices)

- A Siamese Appliance attached to the Supply Line
- Large Capacity Tanker “nursing” the fire ground
- Folding Tank or Tanks set up near the incident scene

C. **Dump Site Supervisor**- The assigned person who is responsible for:

- a. Oversight of the location where units discharge their water supply
- b. Traffic control of all units in coordination with law enforcement

D. **Fill Site**- The location where water is being secured from for the purpose of filling equipment to transport water to the incident scene.

Examples of Fill Sites: (Refer to appendices)

- Underground Tanks/Cisterns (UWST)
- Ponds, Streams, or Pools
- Positive Water Sources (i.e. Hydrant)

E. **Fill Site Supervisor**- The assigned person who is responsible for:

- a. Oversight of the fill location and personnel assigned
- b. Ensuring units are filled in the timeliest and safest manner

**F. Fire Flow Calculation** - The National Fire Academy's Needed Fire Flow Formula for estimating the required fire flow for rapid fire control:

$(\text{Length} \times \text{Width} \text{ divided by } 3) \times \# \text{ of floors} + 25\% \text{ for each exposure} = \text{Needed Fire Flow (GPM)}$

Example – Fully Involved Storage Building

$(30' \text{L} \times 40' \text{W}) / 3 = 1200/3 = 400 \text{ GPM}$

Single Story:  $400 \text{ GPM} \times 1 = 400 \text{ GPM}$

One exposure: +100 GPM

Needed Fire Flow estimated = 500 GPM

(500 GPM = Three 1-3/4" Lines OR Two 1-3/4" and One 2-1/2" Line OR One Master Stream)

**G. Folding Tank**—A metal framed, vinyl lined, folding system that is designed to store water at an incident scene. There are several different styles available and carried on equipment. They are primarily carried on Tankers.

**H. Large Capacity Engine**- an engine company with a tank capacity equal to or greater than 1000 gallons of water.

**I. Tanker**- specifically designated tanker truck with a capacity equal to or greater than 2000 gallons of water.

**J. Tanker Support Unit**- A vehicle which is equipped with adequate adapters and equipment to support Non-Hydrant Water Supply operations. The vehicle is equipped with a pump that has a capability of 750 gallons per minute or greater, an ability to go off road, ability to access ponds, streams etc., 4-wheel drive, hard suction sleeves, strainers and 1000' of LDH hose.

**K. Tanker Task Force**- Three (3) Large Capacity Engines, One (1) 2000 gallon at a minimum Tanker, and One (1) Tanker support unit

## Section 2: Roles and Responsibilities

**A. Water Supply Group Supervisor** - Should be assigned to personnel with experience and expertise in rural water supply operations. Ideally, for overall success of rural water supply, this role should be filled early into the incident.

1. Reports directly to the incident commander.
2. Shall determine the most appropriate process needed to supply the incident scene with the needed continuous fire flow. Processes used could include the use of:
  - Establishing a Relay Operation
  - Utilizing folding tanks to set up a Dump Site
  - Using Engines and Tankers to directly supply the fire ground supply line using a manifold or Siamese
3. If a dump site and or fill site is to be used, the Water Supply Group Supervisor will assign personnel to oversee each of these locations. These personnel shall report directly to the Water Supply Group Supervisor.
4. Shall determine, in coordination with the Incident Commander, the need for a separate radio talk group for water supply operations.

- a. Shall have all water supply units operate on the separate talk group once that need is determined, and a separate talk group is identified. If this occurs, the supervisor should be able to monitor all appropriate talk groups.

## **B. Apparatus Assignments**

### **1. 1<sup>st</sup> Arriving Engine Company**

- a. While responding to an incident in a non-hydranted area, the first due engine company officer shall attempt to identify the primary and secondary water sources to the incident.
- b. The officer shall notify the group dispatcher of the water source, and the dispatcher shall announce the water source to all responding units. (i.e. "Dispatch from Engine 60, the water source for this incident shall be the underground cistern at Station 60" "All units responding on Firebox 60-12, the water source for this incident shall be the underground tank at Station 60")
- c. While approaching the scene, if at all practical, shall lay a supply line into location, and radio instructions to the second arriving engine.
- d. Shall consider layout of the supply line with a Siamese type appliance at the end of the line. This will allow for multiple engines or tankers to be hooked to the supply line once arrived.
- e. Upon arriving at the location, the officer shall determine if it is more appropriate to have the 2nd arriving Engine Company, or tanker proceed to the incident scene directly. There are cases where it may be more advantageous to have the second arriving unit report directly to the scene, and provide water to the first arriving Engine Company.
- f. The officer shall evaluate the incident and determine the need for additional water resources. If a need for additional resources are determined, they shall be requested. Officers are to consider all options available. (i.e. Tanker Strike Team, 2nd Alarm, additional Large Capacity Tankers only, mutual aid options)

### **2. 2<sup>nd</sup> Arriving Engine Company**

- a. Shall secure itself to the supply line laid by the first in engine, and supply the fire ground with water unless otherwise directed by the incident commander. Securing the supply line should be accomplished while leaving adequate room for additional resources that may need to pass and proceed to the fire ground.
- b. The driver and officer should start to consider what source(s) may be utilized for water supply, if not already identified.
- c. The driver should attempt to determine which direction the incoming apparatus should approach from, so as the roadway does not get blocked, and have the desired route of travel conveyed to all responding units.
- d. The officer and crew will proceed to the incident scene to assist the 1st arriving engine company. While reporting to the incident scene, the 2nd engine crew shall make every effort possible to move the supply line from the driveway/road to allow access for additional equipment to proceed if needed.

3. 3<sup>rd</sup> Arriving Engine Company

- a. The Officer will assume the role of the Water Supply Group Supervisor, unless otherwise designated by the Incident Commander.
- b. Shall establish dump site operations and design layout. This shall be accomplished considering factors such as:
  1. Need for folding tank or nurse tankers
  2. Make sure adequate room is available
  3. Evaluate equipment and capabilities
  4. Folding Tanks should not be utilized until enough engines and tankers are on scene and a draft unit is available to draft from tank
- c. Folding Tanks may not be ideal for all scenes. Issues to be considered are use of multiple supply lines, using nurse tankers, and topography
- d. If a folding tank is being utilized, it is recommended to use an additional engine or adequate sized tanker support unit to set up drafting operations. This is done to maintain a direct water supply to the attack engine from the folding tank.
- e. Maintain enough room to allow engines and tankers to travel to and from, and also to expand the dump area, should additional folding tanks be needed.

c. If needed, the crew shall remain at the dump site and assist in establishing water supply operations. This decision should be made in coordination with the incident commander, as tactical considerations on the incident may need to be changed or additional resources requested.

4. 4<sup>th</sup> Arriving Engine Company

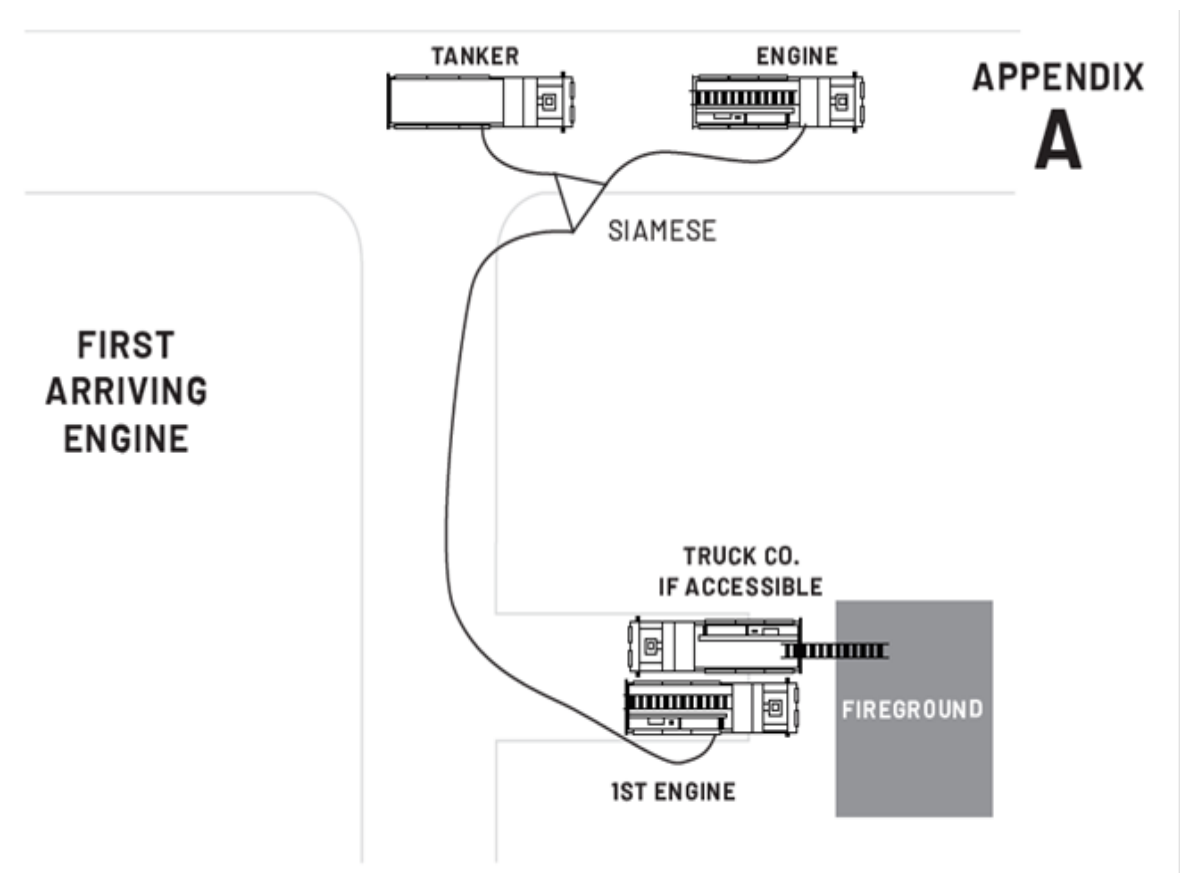
- a. RIT per TAC 8

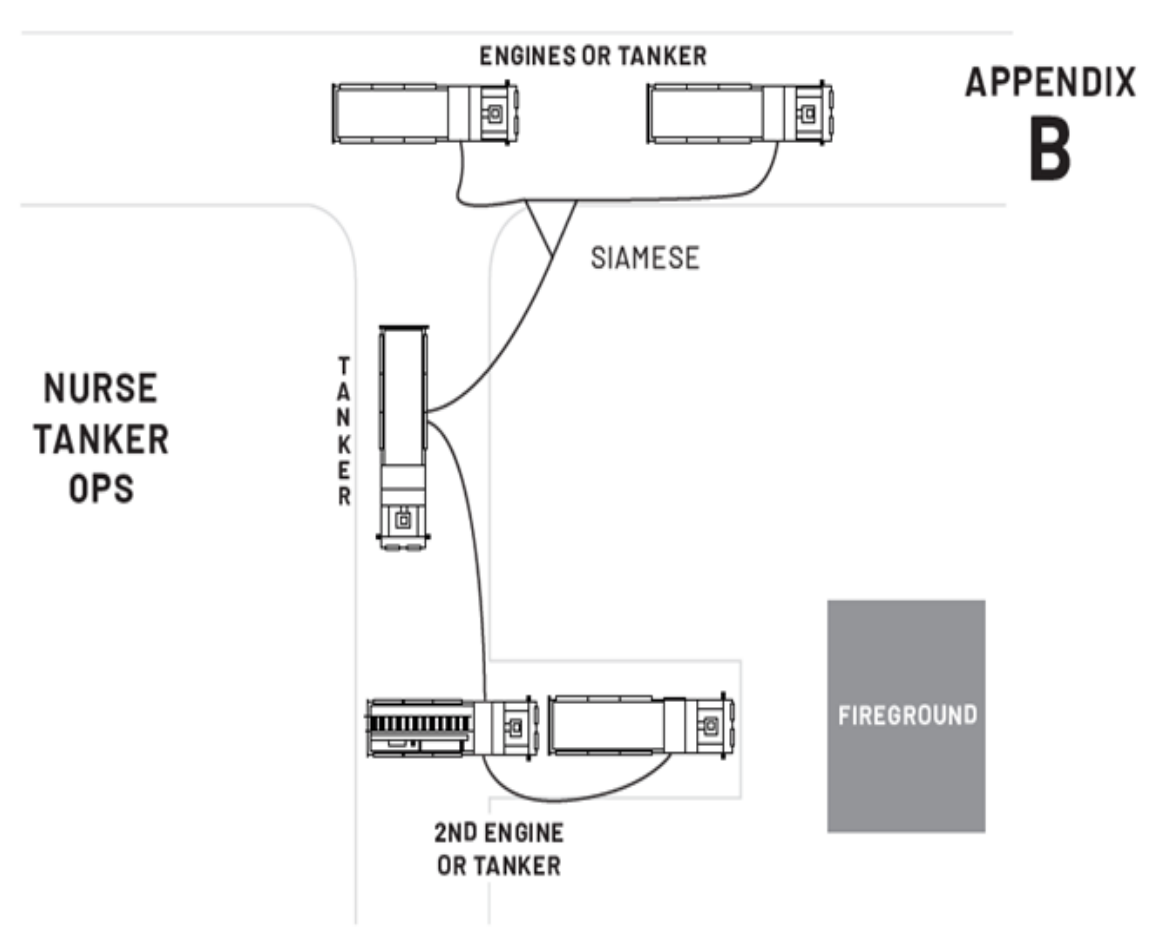
5. 1<sup>st</sup> Arriving Tanker

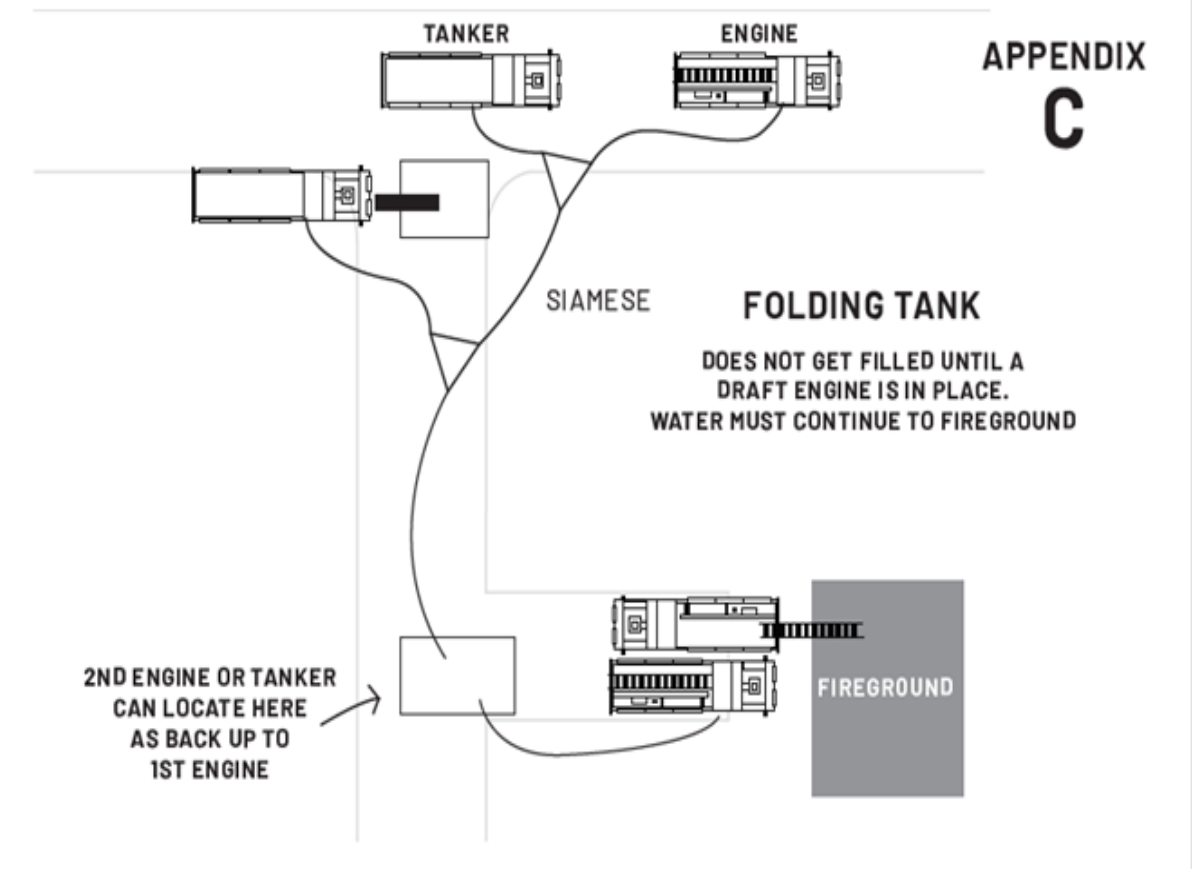
- a. Report to the dump site upon arrival, and report to the Water Supply Group Supervisor for assignments including:
  1. Attaching to the appliance connected to the supply line
  2. Off-loading water
  3. Dropping folding tank and all related appliances near the dump site (this allows for its use should tactical objectives dictate a change in the dump site after the tanker is no longer at the dump site.
  4. Beginning tanker shuttle operations

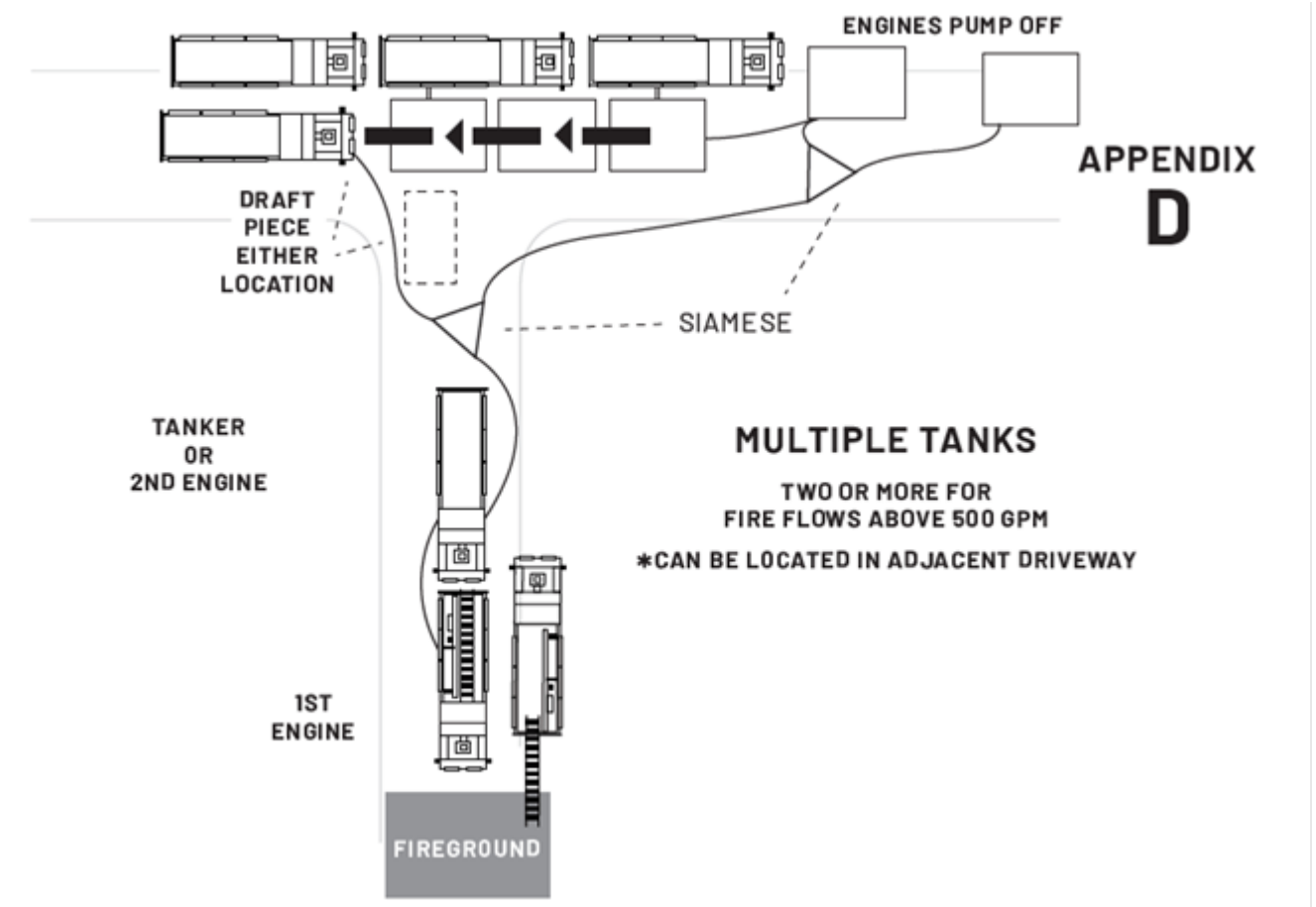
6. 1<sup>st</sup> Arriving Tanker Support Unit

- a. Report directly to the identified water source. If a water source is not identified by the first engine company, the Tanker Support Unit shall report to the closest water source and notify command of that location.

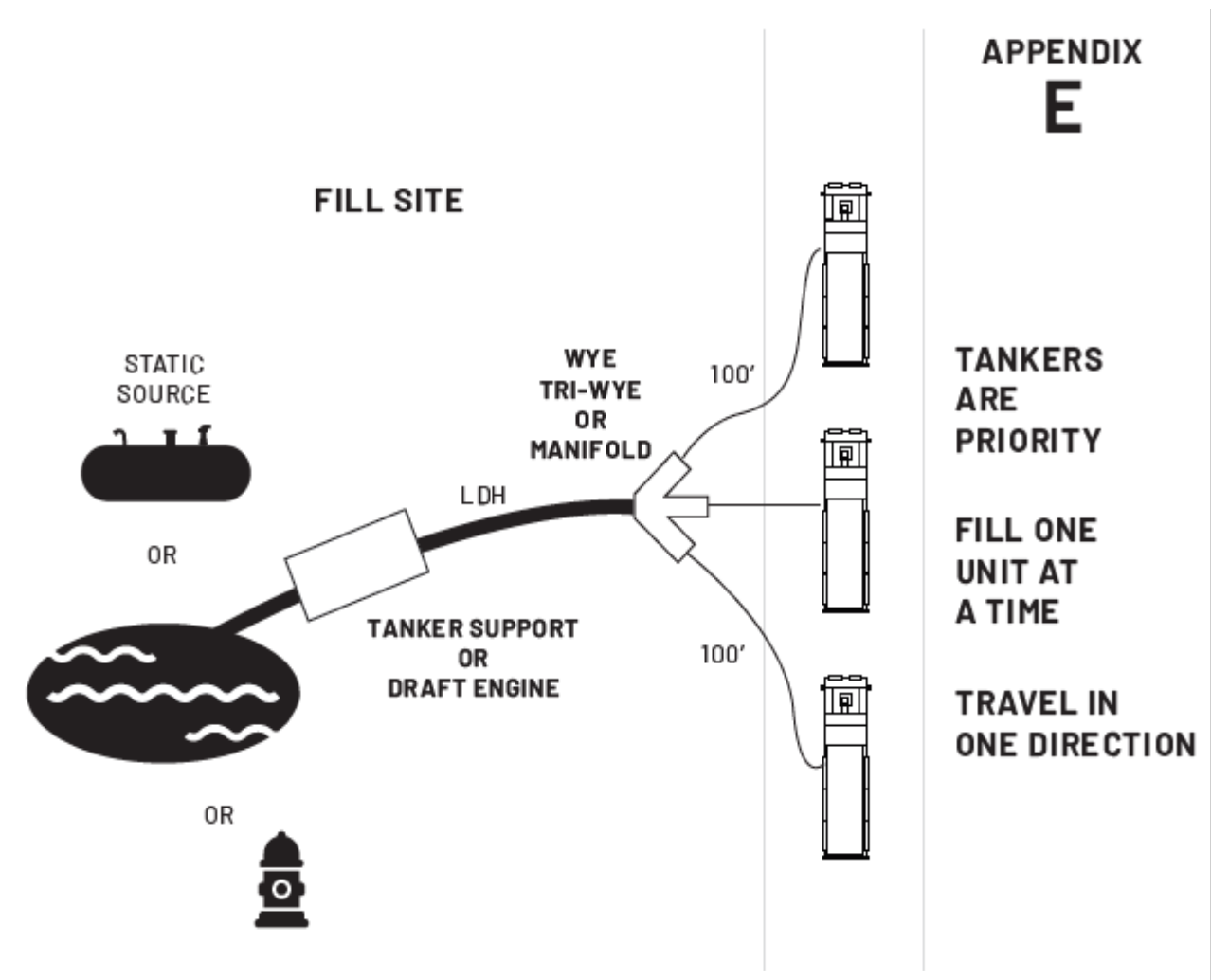












**STREET SIDE WATER SUPPLY OPS**

**APPENDIX  
F**

