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MOVING WATER

While this is an excellent application of portable pumps there is another application that will free up capacity of the supply pump. When multiple dump tanks are setup at the dump site, jet siphons are used to move water into the primary tank. Depending on the number and type of jet siphons a significant amount of pump capacity can be taken just to move water from one tank to another.

One way to free up pump capacity is to bring in an additional engine dedicated to running jet siphons for water transfer. Usually by the time numerous jet siphons are in use the dumps site is congested making it difficult if not impossible to position an engine for water transfer. With the issues of resource limitations facing a large portion of the fire service a spare engine may not be available for this task. This is where a grass unit or portable pump comes in handy. Grass units being smaller and more maneuverable will be able to position with relatively ease in the dump site. Portable pumps can be carried in the dump site and setup next to the portable tanks.

The pumps need to generate sufficient pressure and flow for the jet siphon to work. This is normally in the range of 120 to 150 gpm at 100psig depending on the jet siphon design. At a recent water supply drill a CET MR20 was used to transfer water the from tertiary tank to the primary tank. The engine was not having difficulties transferring water between the secondary and primary tanks so that system was left in place. The setup used a low-level strainer with a built-in jet siphon to transfer the water. The jet siphon was supplied through 50 feet of 1 ¾" line.

The 2 ½" suction line used a barrel strainer in the tertiary tank as the water source. The MR20 ran continuously transferring water to the primary tank. This also freed the pump operator from being concerned with water transfer.

Lessons Learned

Using a low level 2 ½" strainer would allow the portable pump to draw down the tank to a lower level. The limiting factor in how low the water level could be drawn down for transfer to the primary tank was the jet siphon and low-level strainer in the 6" line.

Using a low-level strainer to supply the portable pump can provide additional water to the primary tank once the low limit of the primary siphon is reached. At this point the portable pump would push water through the jet siphon without pulling additional water from the tank.

Supplying the portable pump from the primary tank may eliminate issues of pulling air into the portable pump suction line since the goal is to keep the primary tank the fullest. But this means some water from the primary tank is going to the tertiary tank.

Test the jet siphon and pump combination to determine the amount of water that can be moved. It is likely more water could have been moved going from the secondary to primary due to shorter distances.