MEMORANDUM

TO: Interested Parties

From: Lou Harmon, Water and Wastewater Section, Program Manager

Date: February 14, 2011

RE: Chapter 12, Section 14 – Cross Connection Control for Stock Watering Points – Policy 14.14.6

1. A stock watering point is a permanent fixture or container filled either automatically or manually from a dedicated fill point. A stock watering point may also be an animal actuated water source. A dog dish or portable watering trough is not considered a stock watering point for purposes of this policy.
2. Stock watering points are considered to be high hazard cross connections because of the potential for protozoan, bacterial and viral contamination.
3. As a high hazard cross connection, stock watering points must be protected by an air gap or reduced pressure zone back flow device. The backflow device should be installed at or near the point of use.
   a. Air gaps are easily defeated by some well meaning individual extending the discharge outlet below the edge of the water tank with a water hose to prevent the water from blowing over the edge. Therefore, an air gap meeting the requirements of Chapter 12, Section 14 Table 1(see attached) is an acceptable cross connection method as long as its integrity is maintained (see paragraph 5 below for air gaps specific to yard hydrants). There are products on the market that provide both an air gap and an automatic top-fill capability. Automatic fill valves with submerged outlets cannot provide an air gap, and must meet the paragraph 3.b requirements.
   b. Reduced pressure zone backflow devices are required for animal activated watering points and submerged outlet fill devices. There is no way to provide an air gap in these situations as pressure must be maintained to the point of use, precluding an air gap. Reduced pressure zone backflow devices are expensive to install and maintain. Reduced pressure zone backflow devices must be installed above grade in an area capable of draining the rated bypass flow of the device, and be heated to prevent freezing.
4. Chapter 12, Sec. 14 (i)(i)(V) states *"Where potential high hazards exist within the non-residential water user's system, even though such high hazards may be isolated at the point of use, an approved backflow prevention device shall be installed and maintained at the water service connection."* If the appropriate high hazard back flow device is installed and maintained at the livestock watering point (point of use) as described in paragraph 3 above, then the service connection may be protected by a low hazard backflow device. The most practical solution to cross connection control at the service connection in this instance is a double check valve meeting the requirements of Chapter 12, Section 14, Table 1. (Note that if there is an animal watering point the service connection cannot be classified as a residential or domestic service connection, even though there may be a residence using the service connection.)
5. A yard hydrant with a permanently installed anti-siphon device (such as a vacuum breaker) and the hydrant outlet at least 12" above the spill point or overflow of any tank being filled from the hydrant may be considered to satisfy the requirements of an air gap backflow device. A shut-off or valve shall not be installed on the end the hose connected to the yard hydrant. The anti-siphon device installed on the hydrant is not designed to function under continuous pressure or back pressure. Also, if the frost-free hydrant is located in an area where liquids with fecal contamination can pool, the hydrant should have a check valve and drain line installed, as shown in the attached figure.