

# Safety is YOUR Responsibility!

**Y**es, safety is YOUR responsibility! If you are a city council or RWD board member or the employee of either, safety is a part of your responsibilities. It is critical to make sure everyone in your organization has the proper safety equipment and appropriate training.

## Identify facilities with an address

First, I believe all facilities owned by city or rural water districts where equipment or chemicals are used, such as lift stations, wells, chlorination or treatment facilities, should have a physical address assigned to them. Here's the problem. Suppose there is an emergency. Someone calls 911 and requests, "We have a worker in an emergency situation in the north lift station; we need a rescue now!"

The north lift station? Where is that? The caller can't provide a physical

address such as 1313 Mockingbird Lane. Don't assume that emergency responders know where the north lift station is located. Having a physical address is essential. Having a physical address can also assist when submitting insurance claims.

## Concerns for hygiene

One of the most basic worker safety issues is to practice good hygiene. This includes but is not limited to washing hands when working with any materials or chemicals in water or wastewater utilities. Washing work clothes separately from other laundry is highly recommended. Cities and water districts should consider purchasing a washer and dryer for the shop; used units can usually be found at reasonable prices. Most new city buildings even provide shower facilities for staff. Some cities provide uniform service that provide laundry

services. Having rubber gloves, disinfectant wipes and hand sanitizer on the work truck are important first steps to helping reduce possible contamination. As Wastewater Tech for KRWA, I carry all of these as well as sunscreen and bottled water in summer.

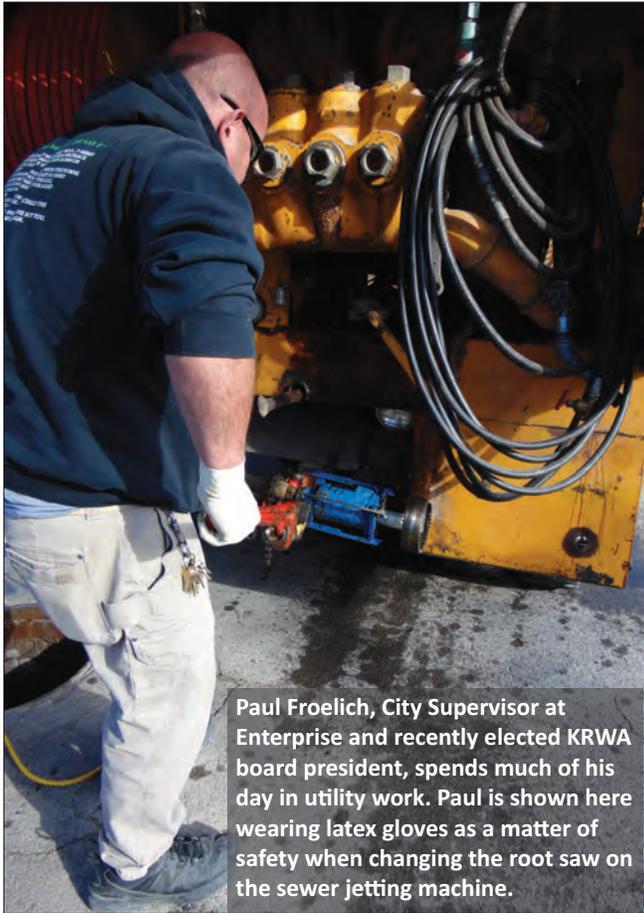
## Heat exhaustion and hypothermia

During hot weather, make sure you drink plenty of the proper fluids and keep well hydrated. I carry drinking water in my truck during the summer due to possible extreme heat. People think that just because they are on a riding mower or open cab tractor that they are not exerting enough to cause problems due to heat. Use sunscreen to reduce sunburns and potential skin cancer. Sunscreen needs to be applied at least every two hours per label instructions.

Heat exhaustion usually occurs due to physical activity during high temperatures, depending on the person's age and normal activity level. Signs and symptoms of heat exhaustion include that the person will exhibit heavy sweating and the skin will be cold and clammy; there may also be a gray facial color. Fluids should be provided as soon as possible; remove the person from the heat and allow to lie down and rest. If the symptoms do not improve in less than 30 minutes, get the person to a medical facility. Heat stroke is a very serious illness and the person will be hot to the touch with no sweating. Emergency medical services should be called immediately for this issue. Basic first aid courses train on such conditions.



This photo shows the address of the lagoons and lift station at the City of Sylvan Grove. While a lagoon is obvious to anyone who drives by, most other water or wastewater facilities are not as easily identified.



Paul Froelich, City Supervisor at Enterprise and recently elected KRWA board president, spends much of his day in utility work. Paul is shown here wearing latex gloves as a matter of safety when changing the root saw on the sewer jetting machine.



This photo shows the basic personal hygiene supplies that KRWA Wastewater Tech Charlie Schwindammann has on his work truck. These are needed especially due to lack of freshwater supply at wastewater lagoons

### Vaccines

Having workers receive appropriate vaccinations is another important issue that contributes to worker safety. Many people often forget to have tetanus and hepatitis shots. Employees

working with raw sewage should receive these vaccinations. A booster shot should be obtained every seven to ten years for tetanus. The hepatitis vaccine is usually a series of shots that are administered over a few months time. Contact your health care provider or county health department for recommendations and to receive the vaccines. Make sure they are aware of

Likewise during cold weather, workers needed to be prepared. Wear layers of clothing; remove any wet clothing. Dry off wet skin as soon as possible as from working on water leaks in cold temperatures for example. Some signs and symptoms of mild hypothermia are shivering and foot stamping; the person may seem to be withdrawn, have loss of coordination and confusion. With moderate hypothermia the person may appear sluggish or sleepy.

In mild cases the person should be moved to a warm environment and given warm fluids to drink. Medical treatment may be needed. I suggest that workers leave utility vehicles run with the heater on in extreme cold weather so a person who gets cold can warm up when needed. All personnel need to be watched closely for issues due to heat or cold exposure. Learn more about appropriate actions for someone suffering from either extreme heat or cold by taking first aid courses.

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**Neil Clowe, Wetmore, Kan. is ready to enter the manhole to remove a sandbag left during construction of the lift station. Note fall protection connected to the back of the harness, raising line connected to the front of harness and 4 gas monitor in his left hand and ventilation fan all in place.**

the working environment such as if working near or with sewage.

### **Protective equipment**

Everyone should have proper personal protective equipment (PPE) such as hard hats, safety glasses and safety vests as several examples. Some utilities require workers to wear steel toe boots.

Safety vests or coats should be worn when working in or near traffic areas s.

The class of these depends on the speed of the traffic, so I suggest that the higher class III be chosen to be prepared for all situations.

Just checking a manhole does not take very long. Still workers should wear safety gear.

### **Traffic safety**

Cones and barricades should be used whenever possible especially when excavating a water or wastewater

pipeline. A backhoe is like a beacon in small communities; everyone wants to drive by to check out what is going on! I recently was assisting a system that had placed barricades at each end of the street and even a fire truck to block traffic. It was surprising that local citizens continued to drive around the barricades and through the ditches to get close to see what was taking place.

### **Lockout/tagout**

Lockout/tagout should be used when working with electrical equipment such as pumps and motors. I have worked with many systems. The city of Logan is one of the very few I have ever witnessed using lockout/tagout procedures. Working with electricity and turning equipment shafts is dangerous; safety while working around this equipment should not be taken lightly.

### **Require safety training**

I believe everyone should be trained in the basics of First Aid, CPR and Automated External Defibrillator (AED). These certifications are good for two years from the American Heart Association and the American Red Cross. There are usually local people who will provide this training and the courses can usually be completed in four to six hours. Usually the local fire departments and swimming pool will have training for their personnel and will allow operators to attend as well. Years ago, when I worked for the city of Marysville, I become a certified instructor to teach CPR and first aid to the fire department, lifeguards and city staff. Having an in-house instructor saved the city many hundreds of dollars in training every year as we reused the training manuals and all we had to pay for was the certification cards. Presently the manager of the Marysville swimming pool is a certified instructor and provides the training to city staff including the lifeguards and fire department. This type of arrangement should work for most cities with several staff members. Even the office staff should be allowed, and encouraged, to take these courses.



Staff at the City of Horton work to pull a pump at a lift station to remove a blockage. Note the heavy rubber gloves workers are wearing.

### Trench and confined space safety

Trenches can be very dangerous work environments. Several people have been killed in excavations in Kansas in the last year. KRWA continues to provide training sessions throughout the year for confined space and competent person for trenching and excavation. The sessions, dates and

locations are listed on KRWA Web site at [www.krwa.net](http://www.krwa.net) under the training tab. Several people have told KRWA that this training was invaluable to making sure good standards of safety are practiced in their utilities.

Trenches are any excavation that is longer and deeper than it is wide and less than 15 feet wide. Means of access or egress by use of ladder stairs or

ramp are required when the trench is four feet or deeper. Also a means of egress is required so no more than 25 feet of lateral travel by a worker is required to reach a place of egress. When working around trenches make sure the spoil pile is at least two feet away from the edge of the excavation to reduce chances of debris falling into the trench or causing a cave in due to load on the side walls. I know of utilities in Kansas that have purchased shoring or trench boxes to be used when working in deeper trenches.

Protective systems such as shoring, sloping or step cuts are required for trenches deeper than five feet. Step cuts and sloping are not used very often due to the large amount of soil that needs to be removed, the time required and limited amount of space, especially in alleys, etc.

Confined spaces can also be very dangerous due to the possibility of there being bad atmosphere (air) in the area. A confined space is space that: 1) is large enough and so configured that an employee can bodily enter and perform assigned work; 2) has limited or restricted means of entry or exit;

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This photo shows the lockout/tagout installed by David Snow, city of Logan, Kan. to lock out the pumps at a lift station prior to adjusting the impeller clearances.

**Most small systems don't have the confined space equipment such as tripod, harness, fall protection, 4-gas monitor or ventilation fan to use to enter a confined space such as manhole, wet well or water storage tank.**

and, 3) is not designed for continuous employee occupancy.

A PERMITTED confined space is a space that meets the definition of a confined space and has one or more of the following; 1) has the potential to contain a hazardous atmosphere; 2) contains material that has the potential for engulfing an entrant; 3) has an internal configuration that might cause

an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section; or, 4) contains any other recognized serious safety or health hazards.

Most small systems don't have the confined space equipment such as tripod, harness, fall protection, 4-gas monitor or ventilation fan to use to

enter a confined space such as manhole, wet well or water storage tank. These utilities hire contractors to complete any work needing this type equipment. This is fine and a good policy, but cities and RWDs should make sure the contractors use the proper safety equipment. Seek legal advice to perhaps add a blanket statement such as "All proper safety equipment will be used when working for the City of ABC" on all contracts to reduce the liability of the utility. Even if you have a policy of no employees allowed to enter a confined space, the workers should still be required to attend proper training to know what is or is not a confined space or permitted confined space and how to be safe. Last, I encourage utilities to send their workers to the confined space and trench safety training. Check the KRWA training calendar at [www.krwa.net](http://www.krwa.net) and then under the "training" tab. The investment in having workers attend may save someone's life or injuries.

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*Charlie Schwindamann has been Wastewater Tech at KRWA since September 1999. Charlie holds Class II Water and Class I Wastewater Operator certification.*





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