# Exhibit 2

# Farmdale Water District

## Distribution System Operation & Maintenance Manual

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# Update Manuel Signature Form

| Signature | Date |
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| Chris Rolpl | 5-1-24 |

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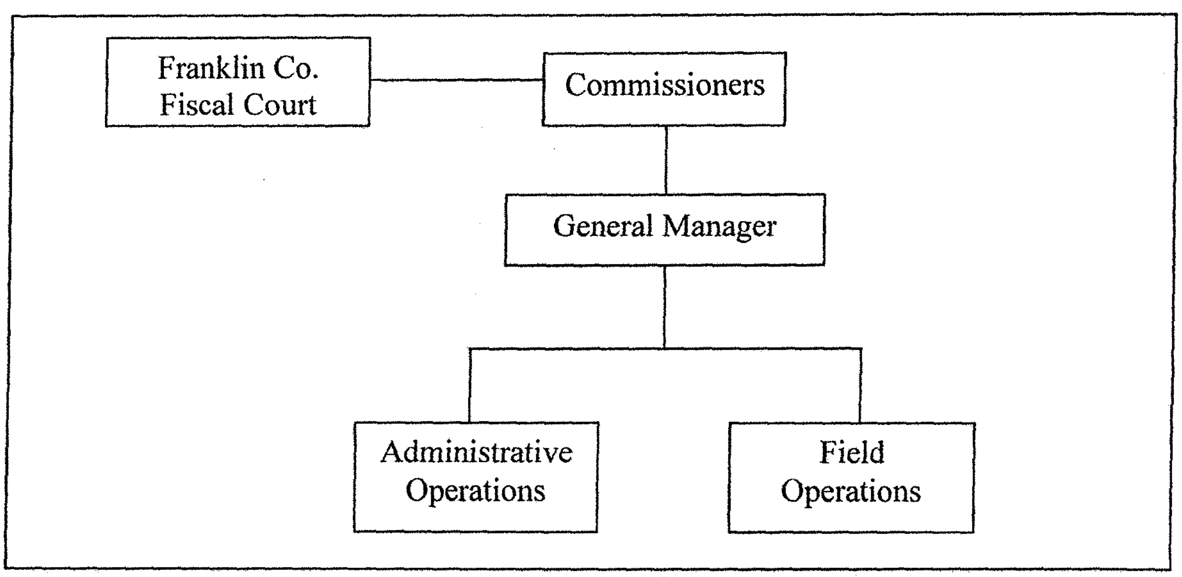
## INTRODUCTION

In compliance with Kentucky Administration Regulation 401 KAR 8:020, Section 2 (13), this Operation and Maintenance Manual has been compiled to facilitate efficient operation and maintenance procedures for water distribution at the Farmdale Water District. Management will ensure the accessibility of this manual to all employees and it will be made available for review by all regulatory agencies. All personnel of the Farmdale Water District will be encouraged to familiarize themselves with and utilize the practices and procedures set forth within this manual.

## ORGANIZATIONAL STRUCTURE

The Farmdale Water District was created and organized in 1961 by the Franklin County Fiscal Court subject to the provisions of Kentucky Revised Statutes (KRS) Chapters 74 and 65. As a water district, Farmdale Water District is also considered a Special District. "A Special District means any agency, authority or political subdivision of the state which exercises less than statewide jurisdiction and which is organized for the purpose of performing governmental or other prescribed functions within limited boundaries. It includes all political subdivisions of the state except a city, a county, or a school district." For most purposes, a water district is considered a political subdivision of the county. A water district is regulated by the Kentucky Division of Water (DOW) and the Kentucky Public Service Commission (PSC).

The Farmdale Water District was created as a single county district. The Board of Commissioners of the water district consists of five (5) members appointed by the County Judge/Executive and approved by the Franklin County Fiscal Court. The term of each commissioner is four (4) years. A resolution from the Franklin County Judge/Executive for each appointment should be on file at the water district office.



## BOARD RESPONSIBILITIES

The Board of Commissioners (board) is granted all powers as provided under the KRS Chapters 74 and 278, and specifically KRS 74.076, which includes but is not limited to: acquiring, installing and operating a water system for a district and may make contracts with persons, municipalities or other agencies for water supply. The board may also prosecute and defend suits, hire necessary employees and other activities as provided under the Kentucky statutes.

In its role as overseer, it is critical that board members have an overall understanding of the operations of the water district, thoroughly review the background materials provided in advance of the meetings, participate in discussions, and request additional information as needed. Board members must use the expertise of each other and of their General Manager in determining the appropriate actions for the water district. Commissioners should be knowledgeable of laws and regulations pertinent to the water district. Commissioners should be loyal to the water district. Commissioners should, to the best of their ability, aid the water district in accomplishing its mission; operate morally, ethically, and within applicable laws and regulations. Commissioners should never knowingly participate in any illegal act or deception, should cooperate fully with proper investigations, and report any wrongdoing to the board.

## MANAGEMENT RESPONSIBILITIES

It is the responsibility of the manager to utilize the available resources in a timely manner to accommodate growth of the water utility while operating and managing the system efficiently. Management is the bridge between finance and operations whose duties include directing, administering and coordinating all operational, engineering, maintenance, construction, and financial activities of the water utility's operation within the scope delegated by the governing board. This position has responsibility to bridge administration and field operations to achieve short and long-term system objectives in accordance with local policy and direction, sound engineering principles, safety consciousness, and federal, state, and local regulatory requirements.

## OPERATOR RESPONSIBILITIES

The water distribution operator is vital to the health of the community by ensuring the delivery of safe drinking water at every tap. As a certified professional, this individual is responsible for the operation and maintenance of all infrastructure and processes needed to distribute drinking water in compliance with state and federal laws.

## DISTRIBUTION SYSTEM OPERATION

### Distribution System Overview

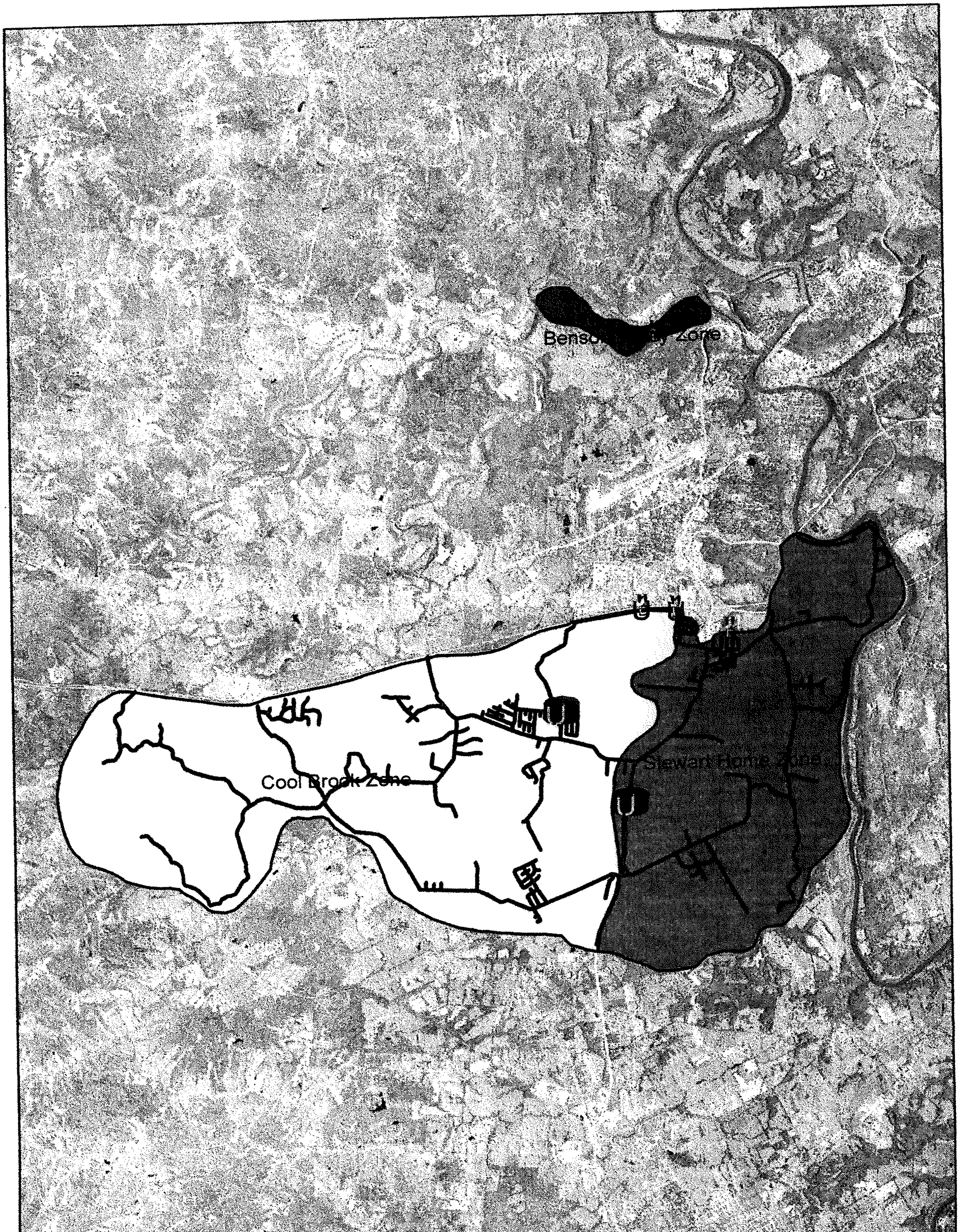
The distribution system consists of 68.7 miles of pipeline, two water storage tanks, two pump stations, 162 hydrants and 2,600 meters. All of the water is purchased from the Frankfort Electric Plant Board at four master meter locations. Farmdale maintains three hydraulic zones; Zone 1 is supplied through the Stewart Home master meter; Zone 2 is supplied through the Cool Brook and Bentwood master meters; and Zone 3 is supplied by Benson Valley master meter (Pressure Zone Map). Highway 127 is the approximate dividing line between Zones 1 & 2. These zones maintain adequate pressures (43 – 150 psi) through the distribution system. The high pressure areas are controlled with pressure reducing valves on the main line and customer service lines. The Cool Brook and Stewart Home tanks are filled by two duplex pump stations located on Twilight Trail by their respective master meters. The pump stations and tank levels are controlled by radio telemetry. The current design plans and "as-built" maps of the distribution system, depicting line location, line size, and the location of all valves and hydrants, are maintained at the Water District office.

| Routine Workflow Chart | | |
|---|---|---|
| Daily | Monthly | Annual |
| 1.Read all master meters<br>2.Check pump station<br>3.Check total chlorine in each zone<br>4.Check tank level | 1.Read meters first week<br>2.Collect 5 Bac-t's in first week<br>3.Inspect pump stations bi-wekly<br>4.Inspect PRV's<br>5.Seven day pressure test<br>6.Collect 4 Bac-t's in third week<br>7.Monthly Operating Report<br>8.Water Loss Report | 1.Test large meters<br>2.Flush system bi-annually<br>3.Test 10% of residential meters<br>4.Monthly Operating Report Statistics page<br>5.Water loss report<br>6.Consumer Confidence Report |

### Distribution Maintenance

The procedures outlined in this manual are twofold: 1) to guide an experienced certified operator in the general processes required to operate and maintain the Farmdale distribution system; and 2) used as a training guide to educate new personnel pursuing an operator license. Specific details regarding the operation, calibration and maintenance of hydrants, valves and meters can be found in the O&M manual addendum. This addendum, located at the District office is a compilation of manufacturer operating manuals. Recordkeeping forms for distribution maintenance are included in Appendix A.

## PRESSURE ZONE MAP



| | | | | |
|---|---|---|---|---|
| 1 ½" | 1 | Positive Displacement | | |
| 5/8"x3/4" | 2,615 | | Radio | 10% Annually |

## SYSTEM FLUSHING PLAN

The purpose of the flushing program is to provide a safe high quality water supply to the customers of the Farmdale Water District. Debris can enter and accumulate in a water distribution system and disinfectant residuals can deplete due to low usage, especially during warm weather. Disinfectants may also combine with materials in the system to form Disinfection Byproducts. Each of these situations may be corrected by an adequate flushing program.

**Process**

A systematic flushing of the entire distribution system should be conducted bi-annually in the spring and fall; however drought conditions may preclude the fall flushing. This will be accomplished by flushing from the source of water to the storage tanks, then downstream to the ends of line by utilizing hydrants and blow offs. The flushing program will ensure that:

1) Drinking water standards are met;
2) Dead end and low usage mains are flushed periodically;
3) Sediment and air are removed;
4) The optimal free chlorine residual is maintained; and
5) Flushing will be performed so as to adequately scour the interior of the main.

System-wide flushing should be coordinated with the Frankfort Water Treatment Plant and performed in concert with Frankfort's flushing schedule and under the guidance of a certified distribution operator. Flushing crews will take steps to protect pavement and property to reduce potential damage during flushing. Customers will be notified prior to system wide flushing. The notification will include expected date and time of the areas to be flushed. The method of notification may include any of the following: local media, door hangers, bill messages and signs.

Routine flushing will occur as needed based on customer complaints of taste, odor, discolored water, or when water quality deteriorates as determined by daily chlorine residual monitoring. Routine flushing will commence when Total Chlorine samples fall below 2.0 mg/l.

Water lines will be flushed following repairs to remove air and sediment from the repaired section of line. Flushing will cease when the optimal Total Chlorine can be maintained. If disinfection is necessary to due to possible contamination, the line will be flushed to remove the high chlorine content. During flushing, water containing high chlorine concentrations will be directed to the sanitary sewer system or flushed on relatively flat ground so as not to contaminate a receiving stream or body of water.

**Record Keeping**

Records of each flushing will be maintained by the Distribution Operator. These records will include the following for each flush point: Forms used to record flushing are in Appendix A.

1) Date/time
2) Location
3) Persons responsible
4) Length of flushing
5) Static and dynamic pressure
6) Gallons flushed
7) Total chlorine
8) Other information deemed useful

**Flushing Procedure**

System flushing begins at the source of water and proceeds throughout the distribution system to the end of each line.

1. Stand to the side and carefully remove one of the nozzle caps. Always assume that the hydrant barrel is pressurized. Use a hydrant operating wrench.

2. If flow control is necessary, attach a valve to the nozzle. Attach a hose, deflector, or diffuser to prevent damage to the surrounding area.

3. Open the hydrant slowly to prevent an excessive surge in the distribution system. Using the operating nut or nozzle valve open the hydrant to a full open position.

4. Continue flushing until the water becomes clear and the desired disinfectant residual is obtained.

5. Close the hydrant slowly. Avoid damage to the main valve or stem coupler by over-tightening or use of excessive force.

6. Replace the nozzle cap hand tight plus ¼ turn.

7. Complete appropriate records.

## Valve Exercise

The location and operational status of line valves is necessary to maintaining and repairing the distribution system. Functioning line valves allow operators to perform leak detection, directional flushing and repairs with minimal disruption of service. All valves in the distribution system are to be exercised at least once per year and records maintained on any maintenance performed. A valve record form is included in Appendix B.

**Valve Exercise Procedure**

1. Locate valve using maps
2. Clean valve box of all debris
3. Do not close valves on main feed lines while pumps are running
4. Operate valve (close valve, open three turns, close again, open completely)
5. Take note of turns to determine valve size
6. If valve box is low use valve box risers to raise to desired height
7. Paint valve box lid (blue)
8. Install concrete collar (if in yard)
9. Install valve marker (if in yard)
10. If valve is in the road mark the size and direction of flow (if not in road mark offset from edge of pavement)
11. Take G.P.S. coordinates
12. Fill out valve exercise and service form
13. Mark area that has been located on small map
14. Mark valves located on big map with green marker
15. If valves are closed call Distribution Office and Water Plant before opening
16. If valves will not move; do not force. Fill out Work Order and replace with new valve. ( don't forget to call B.U.D. to get located, and if it is a state highway make sure to obtain a state encroachment permit)
17. Only repair valves if they are newer style; replace all old style valves if they no longer work

<u>REPLACE LIDS AND VALVE BOXES AS NEEDED</u>

| Valve Status Codes |
|---|
| L.O. – leave off |
| S.O. – stub out |
| F.V. – foot valve |
| H.W. – hand wheel |
| N.R. – needs replaced |

| Gate Valve Cycle Chart |
|---|
| 4" - 13-14 TURNS |
| 6"- 19-20 TURNS |
| 8" - 24-25 TURNS |
| 10" - 32-33 TURNS |
| 12" - 38-39 TURNS |

## HYDRANT MAINTENANCE

Hydrants spend most of their time unused and ignored, yet they are called upon in a moment's notice to provide fire flow for the protection of a business or home. In addition to fire protection, hydrants are an integral component to maintaining public drinking water quality. There are 162 hydrants maintained by water district personnel.

**Preventative Measures**

When performing any sort of flow test or flushing of hydrants, there is the potential to damage infrastructure and affect water quality. The two main dynamics of improperly operating a hydrant that must be understood are; water hammer and discolored water.

Water hammer is caused by an abrupt change in the velocity of flowing water and is most often the result of closing a valve too quickly. Since water does not compress it will not absorb any of the energy it gives off by being forced to suddenly decelerate. Therefore, the water mains, hydrants, control valves and the ground have to absorb all of the energy. If a valve is closed too quickly, the weakest link in the system will fail first. **This is a reason for slowly opening and very slowly closing hydrants.**

Discolored water may be caused by several factors, however improperly operating a fire hydrant a sure-fire way to trigger customer complaints. During normal conditions, water velocity is slightly higher through the center portion of a water main because of friction loss between water and the wall of the pipe. As the average velocity increases, so too will the velocity of the water close to the wall of the pipe. As the water velocity increases, it begins to pick up sediment that usually stays at the bottom of the pipe. This sediment becomes suspended and does not settle out until the velocity decreases. **This is another reason for slowly opening and very slowly closing hydrants.**

**Hydrant Uses**

Line Flushing: The hydrants ease of operation and high flow capability make it a natural for use in flushing distribution system main lines. Flushing is an ideal time to perform hydrant inspections.

System Testing: Hydrants are used to test the hydraulic capabilities of the distribution system to provide data for hydraulic models. These tests, when possible should be conducted in conjunction with normal hydrant maintenance or flushing to reduce unnecessary water loss.

Fire Protection: Farmdale Water District is designed specifically for the distribution of potable water to its customers. The system is not intended to provide fire protection.

**Dry Barrel Hydrants**

All hydrants in the system are "dry barrel hydrants." Dry barrel hydrants are manufactured in accordance with AWWA Standard C-502. Dry barrel hydrants have the main valve located below ground and the section that extends above ground is void of water except during operation. These hydrants are equipped with drain valves or weep holes to allow the portion of the hydrant above the main valve to automatically drain.

**Routine Inspection**

All hydrants should be inspected annually. Performing hydrant inspection and maintenance in conjunction with biennial line flushing will conserve water loss and maximize staff time. Routine inspection of common fire hydrants by experienced operators should take approximately 30 minutes per hydrant unless maintenance and/or painting are required. If a hydrant is found to be inoperable during inspection or operation or is in need of major repairs it should be reported to the utility manager and fire department. **Note: any lubricant used for hydrant maintenance must be certified food grade.**

1. Communication.

    a. Notify the utility office. This allows the office staff to better field customer complaints.
    b. Customer complaints regarding low pressure should be recorded.
    c. Notify water treatment plant.

2. Visually Inspect the Area Around the Hydrant.

    a. Hydrants are required to have a minimum clearance of 3 feet in all directions.
    b. Remove any weeds or brush.
    c. In order to protect landscape, vehicles, etc. in the surrounding area, it may be necessary to use a diffuser or hose to direct water away from the area.

3. Visually Check the Hydrant for any Defects.

    a. Remove all caps and check the threads. Remove the first cap slowly to ensure there is no pressure on the hydrant. Clean threads with a wire brush and lubricate the threads if necessary.
    b. Check for water or ice in barrel. The presence of water indicates:
        i. Leakage of the main valve.
        ii. Drains are below the water table.
        iii. Drains are obstructed.
        iv. Nozzle replaced prior to allowing the barrel to drain.
    c. Replace caps.
    d. If hydrant is equipped with safety chains, ensure the chains are loose and do not bind on the cap. Lubricate the chain race on the cap.
    e. Check the breakaway flange for damage or loose bolts.
    f. Lubricate the operating nut if required. Kennedy hydrants have grease fitting on the operating nut that requires grease. Detailed manufacturer specific instructions for most hydrants are available in the utility office or online.

4. Hydrant Barrel Test:

    a. Tighten all caps except one for air venting.
    b. Slowly turn valve to fully open.
    c. Tighten cap after all air has escaped and water appears.
    d. Check nozzles, flange connections and seals for leakage.
    e. Slowly close the main valve then remove the 2 ½" nozzle cap.
    f. Place hand over opening. A strong suction will indicate that the hydrant is draining properly.

5. Operating Test:
    a. Take note of main valve operation during the barrel test. The operating nut should turn smoothly, if not, check and add fresh oil thru the oil port till full.
    b. If operating nut is still stiff remove the operating lock down nut and remove all old grease on, around, and inside the operating nut (use Emory cloth if necessary).
    c. If accessible clean the threads on the operating stem with a wire brush.
    d. Using, fresh hydrant oil, lubricate the operating nut, stem, & lockdown nut.
    e. Reinstall the hydrant operating parts and fill the hydrant with fresh oil thru the oil port until full.
    f. If the main valve is still difficult to open, mark for repair on the inspection record.

6. Pressure Test

    a. Remove the 2 ½" cap and slowly open hydrant 3 – 5 turns to fill the barrel then slowly close hydrant.
    b. Install pressure gauge on the 2 ½" nozzle and open petcock.
    c. Open the hydrant slowly then close petcock when flowing a steady stream.
    d. Continue to slowly open the hydrant until the pressure has stabilized.
    e. Check for leaks at the flanges, operating nut, nozzles and nozzle caps and record the pressure.
    f. Slowly close the hydrant and open the petcock to relieve pressure.
    g. Remove the pumper nozzle cap and close pressure gauge petcock.
    h. Attach hose or diffuser if necessary to protect surrounding area.
    i. Attach meter, pitot tube, orifice plate, or other device to measure the hydrant flow and total gallons flushed.

7. Flow test and hydrant operation:

    a. Open the hydrant SLOWLY approximately 3 to 5 turns to allow time for the air to escape from the hydrant barrel. Then continue to SLOWLY open hydrant to the full open position to check operation.
    b. When the hydrant is flowing full, a flow test can be conducted.
    c. Record dynamic pressure and flow.
    d. Check nozzles, flange connections and seals for leakage.

e. Allow the water to flow for a minimum of 3 to 5 minutes to flush the hydrant and water lines.

8. Complete flow test:

   a. Look for discoloration and debris. A sample collected in a solid white cup is useful for checking water clarity.
   b. Continue to flush hydrant until water is clear.
   c. Once the water is clear, close down hydrant VERY SLOWLY.
      i. Be aware that some hydrants may not seem to slow down when you turn them. This usually means the hydrant may slam (it will have some slop in the stem and may make a thump sound when closing). This causes water hammer and could cause major damage to the water distribution system. This is why it is imperative that hydrants are closed VERY SLOWLY.

9. Closing the hydrant:

   a. Wait to make sure the hydrant stops dripping. It should not be necessary to close the hydrant with great force.
   b. If the hydrant does not shutoff completely, there may be debris stuck between the disc and seat. Over tightening of the hydrant can do permanent damage to the disc. Open the hydrant to flush the debris and then close the hydrant again.
   c. After the hydrant is closed, back off on the operating nut about 1/4 turn. This removes the pressure from the operating nut and stem. The main valve will remain closed.
   d. Ensure that water drains from the hydrant barrel. If not, clean weep holes or pump out hydrant to remove water from the barrel.
   e. Remove any fittings or hoses and replace the caps.
   f. Tighten the cap and then back off slightly. Caps should be tight enough to prevent removal by hand but loose enough to be removed with ease using a spanner wrench.

10. Paint hydrant according to NFPA standard as needed.

11. Repair any damages from running water.

12. Complete the hydrant maintenance form (Appendix C).

13. Notify the utility office and treatment plant when you are done for the day.

**Guidance Manuals and Publications**

The following publications should be used when installing, testing or inspecting fire hydrants.

4. Hydrant Barrel Test:

    a. Tighten all caps except one for air venting.
    b. Slowly turn valve to fully open.
    c. Tighten cap after all air has escaped and water appears.
    d. Check nozzles, flange connections and seals for leakage.
    e. Slowly close the main valve then remove the 2 ½" nozzle cap.
    f. Place hand over opening. A strong suction will indicate that the hydrant is draining properly.

5. Operating Test:
    a. Take note of main valve operation during the barrel test. The operating nut should turn smoothly, if not, check and add fresh oil thru the oil port till full.
    b. If operating nut is still stiff remove the operating lock down nut and remove all old grease on, around, and inside the operating nut (use Emory cloth if necessary).
    c. If accessible clean the threads on the operating stem with a wire brush.
    d. Using, fresh hydrant oil, lubricate the operating nut, stem, & lockdown nut.
    e. Reinstall the hydrant operating parts and fill the hydrant with fresh oil thru the oil port until full.
    f. If the main valve is still difficult to open, mark for repair on the inspection record.

6. Pressure Test

    a. Remove the 2 ½" cap and slowly open hydrant 3 – 5 turns to fill the barrel then slowly close hydrant.
    b. Install pressure gauge on the 2 ½" nozzle and open petcock.
    c. Open the hydrant slowly then close petcock when flowing a steady stream.
    d. Continue to slowly open the hydrant until the pressure has stabilized.
    e. Check for leaks at the flanges, operating nut, nozzles and nozzle caps and record the pressure.
    f. Slowly close the hydrant and open the petcock to relieve pressure.
    g. Remove the pumper nozzle cap and close pressure gauge petcock.
    h. Attach hose or diffuser if necessary to protect surrounding area.
    i. Attach meter, pitot tube, orifice plate, or other device to measure the hydrant flow and total gallons flushed.

7. Flow test and hydrant operation:

    a. Open the hydrant SLOWLY approximately 3 to 5 turns to allow time for the air to escape from the hydrant barrel. Then continue to SLOWLY open hydrant to the full open position to check operation.
    b. When the hydrant is flowing full, a flow test can be conducted.

## CROSS CONNECTION

Farmdale Water District is aware of a potential threat to the health and safety of those served by the public water supply from cross-connections. The possibility of backflow due to a cross-connection within the customer's premises can be extremely dangerous because, when it occurs, the potable water supply may become contaminated with bacteria, toxic materials, and/or other hazardous substances.

The District shall take reasonable precautions to protect the public water system from cross-connections originating from the customer's system that may degrade the quality of the water in the distribution system. This program is designed for the detection and elimination of potentially hazardous cross-connections and the prevention of the creation of new cross-connection.

Customers with a meter size larger than 5/8 x 3/4 inches or whose use of water poses a higher degree of hazard than that normally associated with use at a typical single family residence will be evaluated regarding water use and potential cross-connections at the customer's premises. Also, existing customers will be re-evaluated where any modification, additions, or changes to their property are made requiring a plumbing permit issued by the local authority or where the plans must be approved by the Fire Marshall.

Farmdale Water District staff shall make all evaluations of the cross-connection hazards which exist in supplying a customer's water system and may use surveys and on-site inspections of premises for that purpose. An approved backflow prevention device shall be required at any point of connection between the public water supply and the customer's water system where the District determines that a present or potential contamination or pollution hazard to the public water system may exist. All service connections considered as low hazard applications shall have at a minimum a dual check valve backflow preventer installed between the water meter and the residence.

Farmdale will maintain records for each location requiring a backflow prevention device. A separate file shall be created and maintained for each location. Records are to include, but are not limited to:

| | |
|---|---|
| The customer contact information | Degree of hazard rating |
| Type of backflow preventer | Installation review by Plumbing Inspector |
| Backflow device information | Test reports |

The charts on the following pages are used by the District staff to determine the degree of hazard and the appropriate backflow application needed to protect the public.

## Cross Connections, Degree of Hazard and Acceptable Protection

| Connection Category | Degree of Hazard | | | Acceptable Protection | | | | |
|---|---|---|---|---|---|---|---|---|
| Connections subject to back pressure from: | Severe | Moderate | Minor | Air Gap | Reduced Pressure Device | Double Check Valve Assembly | Pressure Type Vacuum Breaker | Atmospheric Type Vacuum Breaker |
| Pumps, tanks, and lines handling toxic substance | X | | | X | | | | |
| Pumps, tanks, and lines handling non-toxic substance | | X | | X | X | X | | |
| Boilers with chemical additives | X | | | X | X | | | |
| Boilers without chemical additives | | X | | X | X | X | | |
| Gravity conditions subject to contamination by toxic substances | X | | | X | X | | | |
| Gravity conditions subject to contamination by non-toxic substances | | X | | X | X | X | | |
| Connections not subject to back pressure from: | | | | | | | | |
| Sewer or sewage pump | X | | | X | | | | |
| Outlet to receptacles with toxic substances | X | | | X | X | | X | X |
| Outlet to receptacles with non-toxic substances | | X | | X | X | X | X | X |
| Outlet into domestic water tanks | | | X | Each case treated separately | | | | |
| Flush valve toilets | X | | | X | X | | X | X |
| Flush valve urinals | | X | | X | X | | X | X |
| Hose outlets subject to toxic substances | X | | | X | X | | X | X |
| Hose outlets subject to non-toxic substances | | X | | X | X | X | X | X |
| Outlets to recirculating cooling tower with chemical additives | X | | | X | X | | | |
| Outlets to recirculating cooling tower without chemical additives | | X | | X | X | X | | |

## Backflow Device Application Chart

| Type & Pressure | Description | Installed At | Examples of Installations | Applicable Standards |
|---|---|---|---|---|
| Reduced Pressure Principle Backflow Preventer - high hazard cross connections | Two independent check valves with intermediate relief valve. Supplied with shut-off valves and ball type test cocks. | All cross connections subject to backpressure or back-siphonage where there is a high potential health hazard from contamination. Continuous pressure. | Supply Lines<br>Commercial Boilers<br>Cooling Towers<br>Hospital Equipment<br>Laboratory Equipment<br>Car Wash<br>Sewerage Treatment | A.S.S.E. No. 1013<br>A.W.W.A. C506<br>FCCCHR of USC<br>CSA B. 64.4<br>Sizes 3/4" - 10" |
| Double Check Valve Assembly - low hazard cross connections | Two independent check valves. Supplied with shut-off valves and ball type test cocks | All cross connections subject to backpressure where there is a low potential health hazard or nuisance. Continuous pressure. | (Non-toxic)<br>Supply Lines<br>Food Cookers<br>Tanks & Vats<br>Lawn Sprinklers<br>Fire Sprinkler Lines<br>Commercial Pools | A.S.S.E. No. 1015<br>A.W.W.A. C506<br>FCCCHR of USC<br>CSA B.64.5<br>Sizes 3/4" -10" |
| Dual Check Valve Backflow Preventer - low hazard applications. | Two independent check valves. Checks are removable for testing. | Cross connections where there is a low potential health hazard and moderate flow requirements. | (Non-toxic)<br>Post ground hydrants | A.S.S.E. No. 1024<br>Sizes 3/4" and 1" |
| Backflow Preventer with Intermediate Atmospheric Vent - moderate cross connections in small diameter pipes. | Two independent check valves with intermediate vacuum breaker and relief valve. | Cross connection subject to backpressure or back-siphonage where there is a moderate health hazard. Continuous pressure. | Boilers (small)<br>Cooling Towers(small)<br>Dairy Equipment<br>Residential | A.S.S.E. No. 1012<br>CSA B. 64.3<br>Sizes 1/2" and 3/4" |
| Backflow Preventer with Intermediate Atmospheric Vent - moderate cross connections in small diameter pipes. | Two independent check valves with intermediate vacuum breaker and relief valve. | Pump outlet to prevent backflow to carbon dioxide gas and carbonated water into the water supply system to beverage machines. | Post-mix Carbonated Beverage Machine | Special Approvals |
| Laboratory Faucet and Double Check Valve with Intermediate Vacuum Breaker - in small pipe sizes for moderate to low hazard. | Two independent check valves with intermediate vacuum breaker and relief vent. | Cross connection subject to backpressure or back-siphonage where there is a moderate to low health hazard. | Laboratory faucets and pipe lines<br>Barber Shop and Beauty Parlor sinks | A.S.S.E. No. 1035<br>(N-LF9) |
| Atmospheric Vacuum Breakers - moderate to high hazard cross connections. | Single float and disc with large atmospheric port. | Cross connections not subject to backpressure or continuous pressure. Install at least 6" above fixture rim. Protection against back-siphonage only. | Process Tanks<br>Dishwashers<br>Soap Dispensers<br>Washing Machines<br>Lawn Sprinklers | A.S.S.E. No. 1001<br>ANSI. A112.1.1<br>CSA B. 64.1.1<br>FCCCHR of USC<br>Sizes 1/4" - 3" |
| Anti-Siphon Pressure Breakers - for moderate to high hazard cross connections. | Spring loaded single float and disc with independent first check. Supplied with shut-off valves and ball type test cocks. | Designed for installation in a continuous pressure potable water supply system 12" above the overflow level of the system being supplied. Protection against back-siphonage only. | Laboratory Equipment<br>Cooling Towers<br>Commercial Laundry<br>Swimming Pools<br>Commercial Plating<br>Urinal Facilities<br>Degreasers, Photo Tanks<br>Live Stock Systems | A.S.S.E. No. 1020<br>CSA B. 64.1.2<br>FCCCHR of USC<br>Sizes 1/4" - 2" |
| Hose Connection Vacuum Breakers - for residential and industrial hose supply outlets. | Single check with atmospheric vacuum breaker vent. | Install directly on hose bibbs, service sinks and wall hydrants. Not for continuous pressure. | Hose Bibbs<br>Service Sinks<br>Hydrants | A.S.S.E. No.1011<br>CSA B. 64.2<br>Size 3/4" hose |

## WATER LOSS PREVENTION AND LEAK DETECTION

The goal of the water loss program is to reduce unaccounted-for water to 15% or less. In doing so, real and apparent losses must be addressed. Real loss consists of physical water losses from leaks, line breaks, tank overflows, etc. and places a financial and operational burden on the utility. Apparent loss consists of unauthorized consumption, customer metering inaccuracies, and errors in the meter reading and billing processes. This can result in overtime and wasted hours testing for leaks that are not real. Both types of loss must be addressed in order to meet the 15% goal.

Proper distribution management is the key to reducing water loss. Standard methods such as creating hydraulically isolated zones, accurate metering, pressure monitoring, tank performance, demand factoring and preventative maintenance are needed to identify real water loss.

The following plan outlines processes and procedures that Farmdale will conduct on a routine basis to identify and repair water line leaks, monitor water usage, eliminate tank overflows, to reduce its overall water loss.

1. **Records**

   A. INFRASTRUCTURE: Knowledge of water system components and how they function under normal operating conditions is crucial to identifying where water loss occurs. Infrastructure inventory, maintenance and operational performance records are maintained where applicable.

   - Water meters
   - Water mains
   - Service lines
   - Valves
   - Hydrants
   - Storage tank

   B. CUSTOMER: Billing and water usage data needs to be maintained as a historic record so that apparent losses can be identified.

   - Meter readings
   - Billing adjustments
   - Count of active/in-active meters
   - Total water usage by zone

2. **Routine Procedures (Daily/Weekly/Monthly):**

   A. MASTER METERS: Read & record purchase meters from Frankfort.

B. RECORDING READINGS: Master meter readings are maintained in a spreadsheet.

C. METER READING SCHEDULES: Meters are read at approximately the same time each month.

D. FIELD PERSONNEL: All distribution personnel (meter readers, maintenance, etc.), shall immediately report any identified water leaks, tank overflows, or other concerns that are presently or could result in water leaks or loss. Water leaks, given the urgency of the problem reported are repaired immediately or at the earliest possible time,

E. OFFICE PERSONNEL: All office personnel shall immediately report any customer reported leaks, tank overflows, pressure problems, or other issues (whether during regular operational hours or after hours) to the Maintenance Foreman.

F. RECORDING DATA: Daily and monthly records (via computer data bases, manual logs, or spreadsheets) shall be maintained by appropriate personnel to record and analyze the following information:
   - Daily master meter readings
   - Pump station run times
   - Estimated water losses from line breaks, tank overflows, hydrant usage, flushing, etc.
   - Metered customer water sales by route

G. DATA ANALYSIS: Water production and usage data obtained and recorded (item F above) shall be evaluated and analyzed on a daily/weekly/monthly basis to determine:
   - Metered usage
   - Known losses from line breaks, etc.
   - Water loss by distribution zone
   - Focus on distribution system zones: As funding permits, additional master meters and by-pass meters will be installed to further isolate smaller portions of the distribution system in order to more accurately identify and correct water loss problems in specific areas of the system.

H. METER TESTING AND REPLACEMENT: Customer meters will be tested every ten years to ensure that they are registering water accurately. Meters between 1" and 3" shall be tested every three years and meters larger than 4" shall be tested annually. All meters will be replaced, as warranted.

## 3. LEAK DETECTION PROCEDURES

A. FIELD PERSONNEL: On a routine basis, as system operations permit, the Water Works Supervisor will assemble a leak detection team to check the by-pass meter in each zone during a time when customer usage is minimal. This allows field personnel to go valve to valve (and often meter to meter) with listening devices and detect abnormal flows without affecting customer service. Personnel will perform leak detection in those areas with the highest known water loss, based on routine data collection and analysis.

B. OUTSIDE CONSULTANTS: Outside consultants such as Kentucky Rural Water, contract engineer or industry specialists are utilized as circumstances dictate.

## PREVENTATIVE MAINTENANCE PROGRAM

The purpose of Farmdale's preventative maintenance program is twofold: 1) to ensure that equipment is properly functioning so that it meets or exceeds its expected service life and 2) identify maintenance trends that consume a great deal of the operator's time in order to reduce long term operational costs and improve system reliability. Without a sound preventive maintenance program, labor costs for lost water production time due to unscheduled equipment breakdown will be incurred, damages to equipment can be much more severe and potential negative treatment process and/or regulatory ramifications can be unacceptable to the customer and costly to the system. Therefore, three levels of maintenance activities that will be performed. These are predictive, preventative and breakdown maintenance.

### Predictive Maintenance

The goal of predictive maintenance to identify potential equipment failure before a breakdown occurs. This level of maintenance relies upon testing equipment performance and analyzing operational trends. Testing may include such items as oil analysis, to determine optimal oil replacement frequency, infrared analysis, to ensure that electrical connections are sound and that there are no imminent electric failures about to occur and vibration analysis, to ensure that equipment is properly aligned and that bearing wear is identified well before failure occurs.

### Preventive Maintenance

The primary goal of preventive maintenance is to prevent the failure of pumps and equipment before it actually occurs. It is designed to preserve and enhance equipment reliability by replacing worn components before they actually fail. Preventive maintenance activities include exercising valves and fire hydrants; equipment and tank inspections; partial or complete overhauls at regular specified periods; oil changes; lubrication; and so on. In addition, operators can record equipment deterioration so they know to replace or repair worn parts before they cause system failure.

### Breakdown Maintenance

This is maintenance that must be performed because of unexpected equipment failure and is the most disruptive and costly type of maintenance. Even under the best preventative maintenance program, some breakdown maintenance will occur. Each of these events provides a learning opportunity to improve upon existing preventative maintenance programs. The operator should evaluate every equipment breakdown situation, to determine the cause, and what measures could have been taken to prevent the occurrence. The lessons learned should then be added to the preventative maintenance program. Building these written feedback loops into the preventative maintenance program will yield significant returns.

The Water Superintendent in conjunction with certified operators is responsible for implementing the preventative maintenance program. The water treatment and distribution operators are responsible for performing the maintenance and recordkeeping. Inspection forms and maintenance schedules are located in Appendix D, however a generalized list of maintenance measures are as follows:

- ✓ Mechanical appurtenances of pump stations i.e.; motors/pumps, that require greasing, oiling or cleaning will be done as recommended by the manufacturer by the operator.
    1. Daily visual to locate leaks, check runtime and pressures;
    2. Monthly functional inspection including: control valve operation, exercise switch modes, lubricate all related components; and
    3. Annual maintenance to include discharge, amperage and pressure measurement for pump curve analysis.

- ✓ Pressure Reducing Valves are critical to controlling system hydraulics and maintaining consistent customer service. PRV's should undergo visual and functional inspections and undergo annual maintenance as recommended in the manufacturer manual.
    1. Monthly visual inspection to locate leaks and external damages;
    2. Quarterly functional inspection including: closing, opening and regulation of the PRV and by-pass; and
    3. Annual maintenance including internal component inspection.

- ✓ Records will be retained at the District office. These records are to include the following:
    1. List of Specifications for fuels, lubricants, filters, etc. for equipment;
    2. Trouble shooting charts or guides which references pages in manufactures service manual;
    3. Inventory for each type of equipment to include; numbering system, catalog, nameplate data cards, maintenance record cards;
    4. Manufacturers' maintenance schedule for routine adjustments. A summary with references to page number in manufacturer's O&M manual needs to be provided;

- ✓ Hydrants and valves will be inspected / exercised in concert with flushing program.

- ✓ Storage tanks are inspected annually by District staff as required by Public Service Commission and professionally inspected every five years. Caldwell Tank, Inc. is the current tank inspection contractor. The annual inspection form is in Appendix D.

- ✓ Line breaks can occur at anytime; therefore parts, materials and sample bottles are on-hand to repair water line of all sizes. Regulatory compliance and recordkeeping requirements are in Appendix E.

**Sample Site Locations**

| Sample Site | Location | Bact | Lead & Copper | Tier | TTHM | HAA5 |
|---|---|---|---|---|---|---|
| 001 | 100 HIGHWOOD DRIVE | Y | Y | 1 | | |
| 002 | 2823 EVERGREEN RD | Y | Y | 1 | | |
| 003 | 3755 US 127 S | Y | Y | 1 | | |
| 004 | 588 GREEN WILSON RD | Y | Y | 1 | | |
| 006 | 1657 MILLS LANE | Y | Y | 1 | | |
| 007 | 125 RIVER VALLEY RD | Y | Y | 1 | | |
| 008 | 305 BIG EDDY ROAD | Y | Y | 1 | | |
| 009 | 1028 SILVER CREEK DR | Y | Y | 1 | | |
| 010 | 103 FARMERS LANE | Y | Y | 1 | | |
| 011 | 1955 S BENSON RD | Y | Y | 1 | | |
| 012 | SACKS MARKET | Y | Y | 1 | | |
| 013 | 306 CEDARBROOK | Y | Y | 1 | | |
| 014 | 2000 CEDAR RUN | Y | Y | 1 | | |
| 015 | 550 AVENSTOKE ROAD | Y | Y | 1 | | |
| 016 | 2219 MILLS LANE | Y | Y | 1 | | |
| 017 | 984 JOHNSON RD | Y | Y | 1 | | |
| 018 | 100 TALL TREES | Y | Y | 1 | | |
| 019 | 878 SCHOFIELD LANE | Y | Y | 1 | | |
| 020 | 494 JONES LANE | Y | Y | 1 | | |
| 021 | 801 HICKORY RIDGE | Y | Y | 1 | | |
| 022 | 309 CEDARBROOK CT | Y | Y | 1 | | |
| 023 | RT 2 HICKORY RIDGE | Y | Y | 1 | | |
| 024 | 110 VALLEY RD | Y | Y | 1 | | |
| 025 | 60 SOUTH BENSON | Y | Y | 1 | | |
| 026 | 71 DEERLAND | Y | Y | 1 | | |
| 027 | 481 OLD L'BURG RD | Y | Y | 1 | | |
| 028 | 117 QUAIL CT | Y | Y | 1 | | |
| 029 | 515 DOVE CREEK | Y | Y | 1 | | |
| 030 | 1770 US 151 | Y | Y | 1 | | |
| 031 | 4684 US 127 SOUTH | Y | Y | 1 | | |
| 032 | 731 SCHOFIELD LANE | Y | Y | 1 | | |
| 033 | 2061 CARDWELL LANE | Y | Y | 3 | | |
| 034 | 188 BRIARWOOD | Y | Y | 1 | | |
| 035 | 308 SYCAMORE CT | Y | Y | 1 | | |
| 036 | 1133 OLD L'BURG RD | Y | Y | 1 | | |
| 037 | 1003 MILLS LANE | Y | Y | 1 | | |
| 038 | 6234 US 127 S | Y | Y | 1 | | |
| 039 | 979 STONEY CREEK | Y | Y | 1 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 040 | 1024 SILVER CREEK | Y | Y | 1 | | |
| Sample Site | Location | Bact | Lead & Copper | Tier | TTHM | HAA5 |
| 041 | 243 BIG EDDY RD | Y | Y | 1 | | |
| 042 | 151 AVENSTOKE RD | Y | Y | 1 | | |
| 043 | 3045 US 151 | Y | Y | 1 | | |
| 044 | 1111 HIGHVIEW DR | Y | Y | 1 | | |
| 045 | 573 AVENSTOKE RD | Y | Y | 1 | | |
| 046 | 327 OLD HARRODSBURG | Y | Y | 1 | | |
| 047 | 1000 SILVER CREEK | Y | Y | 1 | | |
| 048 | 1010 TYBURN | Y | Y | 1 | | |
| 049 | 1015 TYBURN | Y | Y | 1 | | |
| 050 | 471 ERIN WAY | Y | Y | 1 | | |
| 051 | 2290 CARDWELL LANE | Y | Y | 1 | | |
| 052 | 5204 HUNTINGTON WOOD | Y | Y | 1 | | |
| 053 | 1037 ADERLY | Y | Y | 1 | | |
| 054 | 1029 SILVER CREEK | Y | Y | 1 | | |
| 055 | 107 CHERRY LANE | Y | Y | 3 | | |
| 056 | 650 JONES LANE | Y | Y | 1 | | |
| 057 | 165 GREEN WILSON RD | Y | Y | 1 | | |
| 058 | 958 STONEY CREEK | Y | Y | 1 | | |
| 059 | 925 HICKORY RIDGE | Y | Y | 1 | | |
| 060 | 118 CREEKSTONE | Y | Y | 1 | | |
| 061 | 501 HICKORY RIDGE | Y | Y | 1 | | |
| 062 | 230 RIVER VALLEY | Y | Y | 1 | | |
| 063 | 54 BOONE CREEK | Y | Y | 1 | | |
| 094 | 1305 HWY 151 | Y | Y | 1 | | |
| 095 | 2548 US 127 S | Y | Y | 1 | | |
| 096 | 5610 US 127 S | Y | Y | 1 | | |
| 097 | 1525 MILLS LN | Y | Y | 1 | | |
| 098 | 2655 EVERGREEN RD | Y | Y | 1 | | |
| 099 | 80 ANDERSON RD | Y | Y | 1 | | |
| 100 | 107 CHERRY LN | Y | Y | 1 | | |
| 101 | 309 SANDSTONE DR | Y | Y | 1 | | |
| 102 | 494 JONES LN | Y | Y | 1 | | |
| 103 | 660 SOUTH BENSON | Y | Y | 1 | | |
| 104 | 5113 HUNTINGTON WOODS | Y | Y | 1 | | |
| 105 | 5367 SLEEPY HOLLOW RD | Y | Y | 1 | | |

| Sample Site | Location | Bact | Lead & Copper | Tier | TTHM | HAA5 |
|---|---|---|---|---|---|---|
| 106 | 911 AVENSTOKE RD | Y | Y | 1 | | |
| 107 | 3910 NINEVAH RD | Y | Y | 1 | | |
| 108 | 1326 HIGHWAY 151 | Y | Y | 3 | | |
| 109 | 247 BIG EDDY RD | Y | Y | 1 | | |
| 500 | 100 HIGHWOOD DRIVE | | | | Y | Y |
| 502 | 855 SOUTH BENSON RD. | | | | Y | Y |
| RPD | REPEAT - DOWNSTREAM | | | | | |
| RPO | REPEAT - ORIGINAL | | | | | |
| RPU | REPEAT - UPSTREAM | | | | | |
| SPG | SPECIAL - GENERIC | | | | | |
| | | | | | | |

| | |
|---|---|
| **PSC regulations can be found in 807 KAR Chapter 5.** | |
| **Other agencies such as OSHA and IRS have specific requirements.** | |

## SAFETY PROCEDURES

This Health and Safety Rulebook is presented for the use of all employees of this utility to assist in the administration of our safety program and to provide means and methods that will aid in the performance of our various assignments in a safe and efficient manner.

It is the intent of the utility to conduct its operations in a safe and efficient manner with the utmost regard for the health and safety of the employees and the public. Safety is an integral part of everyone's duties and responsibilities.

This Health and Safety Rulebook expresses the basic safety policies of this utility. Each employee is expected to ensure proper application of its contents.

## RESPONSIBILITY

### Management

The employer shall have the same responsibility for safety as for any other part of the operation.

The employer shall appoint only competent personnel as supervisors, who shall be responsible for the safety of those under his or her supervision.

The employee shall require a supervisor to observe and enforce all safety rules.

The employer shall provide adequate automotive equipment, tools, and protective devices, and insist upon their proper use and maintenance.

The employer, or designated representative, shall fully investigate all serious accidents and take remedial steps to prevent repetition of similar accidents wherever possible.

The employer shall be responsible for safety records and shall be responsible for completing safety inspections and maintaining records to reflect findings and corrective actions taken.

The employer shall require employees to use suitable tools and equipment in order that they may perform their work in a safe manner.

The employer shall require employees to be instructed in safe methods of performing their work.

The employer shall require employees who, in the course of their work, are subject to the hazards of electrical shock, asphyxiation, or drowning, to be instructed in accepted methods of artificial respiration.

### Supervisor

Supervisors shall have the same responsibility for safety as any other part of their utility operations.

Supervisors are at all times responsible for the execution of the work in a safe manner and for the job performance of all personnel under their direction.

Supervisors will be held accountable for all accidents and employee actions unless investigation indicates the actions were due to conditions beyond the supervisor's control.

Supervisors shall instruct all new employees on the reporting of all accidents and the prompt receipt of first aid.

Supervisors shall be responsible for the training and instruction of new employees and of employees transferred to their supervision.

Supervisors shall fully understand and comply with the safety rules of this manual. They shall also ensure that safety rules are understood by the wastewater operators under their supervision.

Supervisors shall insist on employees observing these safety rules and shall use disciplinary measures, if necessary, to obtain compliance.

Supervisors shall be responsible for the proper use of safety devices and equipment by the employees under their supervision.

Supervisors shall be responsible for the regular inspection of all tools and equipment, including employees personal tools used while working under their supervision.

Supervisors shall ensure no duties are assigned to an individual who is unqualified or incapable of completing those duties safely.

Before leaving a job, the supervisor shall see that the site is left in as safe a condition as possible. The supervisor shall arrange adequate warning of any condition that might endanger other employees, the general public, or inspectors.

**Employee**

It is the definite responsibility of each employee to so perform assigned duties while at work to assure:

- Safety for self;
- Safety for fellow employees;
- Protection for the public;

- Protection for company property, and for public and private property.

It is the responsibility of each employee to report to the person in charge all unsafe conditions or acts witnessed on the job.

When an employee is requested to perform duties under unsafe conditions, the employee should not perform those duties without first notifying the person in charge of the unsafe conditions.

It is the responsibility of management to verify that each employee is acquainted with the principles of first aid and resuscitation as soon as possible.

It is the responsibility of each employee to attend all safety meetings possible and to take an active part in safety work.

It is the responsibility of each employee to know and understand the safety rules of this manual, which will apply to the work being performed.

## GENERAL SAFETY MEASURES

This document provides all staff with background information in the safety procedures that pertain to their type of work. A complete discussion of safety can be found in Safety Practices For Water Utilities, AWWA Manual M3. Safety is a priority for all staff of the utility. Obviously, no listing can cover all situations that may arise on a job. The following is a list of general safety rules which should be followed by all staff members:

1. Obey all safety rules and signs.

2. Follow instructions. If you are not sure of the safety procedure, don't guess get qualified assistance.

3. Correct unsafe conditions immediately.

4. Dress in clothing is appropriate for the job.

5. Consult a physician for all injuries.

6. Never start or operate a machine, equipment or vehicle unless you know the safe method of operation and how to stop its operation.

7. Be certain equipment is completely stopped or locked out before making adjustments and repairs.

8. Order and cleanliness are important factors in preventing injuries. Keep work areas clean and orderly.

9. When lifting or pulling, do not subject yourself to strain.

10. After work and before eating, hands should be washed thoroughly with soap and water.

11. Wear appropriate eye protection when using impact tools, when cutting, welding, or soldering, when working with chemicals or when working in environments where there are flying or floating particles.

12. Use tools made of non-sparking material where there is a potential fire hazard.

13. When using electrically powered tools, insulating platforms, rubber mats and rubber gloves should be used to avoid possible shocks.

**<u>Location of Safety Manual</u>**

This safety manual has been prepared for use by the operating personnel of the company. Each employee shall be given a copy of this manual.
This manual is consistently updated to cover areas relating to the safe operation of water and wastewater infrastructure. A current copy may be obtained by contacting a supervisor or the Human Resources Dept.

Any comments or suggestions on improving this manual or updating information pertaining to the safe operation of equipment is welcome and may be incorporated into future editions.

**<u>Safety Meetings</u>**

Safety meetings shall be held on a monthly basis at the regular scheduled Board Meeting. The District shall provide a program suitable for the season and discuss any current regulations or changes that may have occurred since the last meeting.

All personnel shall be required to take an active part in the safety program. Personnel should offer input and dissipate information regarding the safe operation of municipal sewage systems.

**<u>Personal Conduct While On Company Business</u>**

The use of intoxicating liquor during working hours, including lunch hour, is strictly prohibited. Any violation shall be considered sufficient cause for disciplinary action.

Any employee reporting for duty under the influence of liquor, illegal drugs, or illegal smoking materials shall be dismissed. Any supervisor or other person in charge who permits such employee to work shall also be subject to disciplinary action.

**Risk Taking**

Before commencing any work that may be hazardous, care should be taken to establish a safe procedure. Where more than one employee is engaged in the same job, all employees shall be concerned and understand the procedures to be followed to prevent endangerment to self or other personnel on the job. Under no circumstances shall safety be sacrificed for speed.

Employees shall always place themselves in a safe and secure position. The care exercised by others shall not be relied upon for one's own protection.

**Safety Guards**

No guard shall be removed from any machine or piece of equipment except to perform required maintenance. The machine or equipment shall be locked-out so that it cannot be energized during maintenance.

**Protecting the Public**

When an employee needs additional light while working on the premises of a customer, he shall use a battery powered flashlight, or an approved properly guarded electrical extension light. An open flame light such as a match, torch, or cigarette lighter shall not be used.

When operating temporary pumping equipment in a public location, barricades shall be used to keep all traffic and personnel a safe distance away from the site.

**Housekeeping**

Materials and supplies used at treatment plant, tank and pumping station sites should be stored in a neat and orderly manner at the site to prevent them from falling off of shelves onto moving equipment.

Junk parts removed from a piece of equipment should be disposed of in a proper manner. Spare parts used in the operation of the system should be kept in a neat and orderly manner with the item labeled to indicate on what piece of equipment the spare part is used.

**Reporting Hazardous Conditions**

When an employee observes a hazardous condition that may cause injury or property damage, the employee shall report it promptly to a proper authority and when necessary, guard it.

An employee who receives a report of a hazardous condition, either from the general public or another employee shall immediately refer this information to the person or utility responsible for such matters.

**Fire Prevention and Control**

Paper and other combustible materials shall not be allowed to accumulate in blower buildings or other structures in order to prevent them from getting into the machinery or causing a fire.

Flammable liquids such as gasoline and diesel fuel shall not be stored in blower buildings, chlorine rooms, or other structures where they may cause a fire or leak onto the floor causing hazardous working conditions.

Strict adherence shall be paid to "No Smoking" and "Stop Your Motor" signs at fuel dispensing stations.

Oily rags and papers used for cleaning shall not be allowed to accumulate in service trucks and car trunks, as these can spontaneously combust under the proper conditions.

## SAFE WORKING PRACTICES

**Clothing**

Wearing of loose fitting clothing around machinery with moving parts or belt drives is discouraged, as clothing may become entangled in equipment resulting in serious injury or death.

Wearing of sandals or open toe shoes in a field environment is discouraged, especially when handling tools or entering areas where weeds and debris can hide glass or sharp objects. In all cases rubber boots or leather shoes shall be worn in areas where contact is possible with biological organisms found in wastewater treatment plants.

**Personal Eye Protection**

Eyeglasses, even hardened lenses, are not a substitute for goggles. Full cover goggles or face shields shall be worn when an employee is engaged in or is close to work involving:

1. Power grinding, buffing, or wire brushing, even if there is a built in eye shield.

2. Using compressed air to remove dust or debris from a piece of equipment.

3. Flame welding, cutting, or burning. (Approved colored lenses shall be used.).

4. Handling of acids, caustics, dry chlorine, ammonia, or other similar liquids, except when approved complete head covering is worn.

**Lifting**

Consider the size and weight of any object before attempting to lift or move the object. Do not lift any materials that cannot be handled comfortably. Always utilize the proper material handling equipment. If necessary, obtain assistance or wait until assistance is available.

1. Exercise extreme care in lifting oily or greasy parts. Use proper containers or straps to remove these objects.

2. Never carry a load that prevents you from seeing in front of you.

3. Never carry an object over a slick or iced surface.

4. When carrying objects near aeration or settling tanks extra care should be taken to avoid falling in the tanks or dropping objects into the tanks.

**Mechanical Equipment Hazards**

1. Prior to starting any machine, be sure to know how to stop it.

2. Prior to starting any machine, make a visual inspection to be certain all personnel are clear of the equipment.

3. Be certain the equipment is completely stopped and locked out prior to making adjustments or repairs. Test the lock-out by trying to start the equipment.

4. Do not wear long sleeves, neck ties, or jewelry while operating mechanical equipment.

**Electrical and Fire Hazards**

Open flames, lighted matches and burning tobacco products in or around underground structures rule dangerous and should be avoided. Maintain access to ABC fire extinguishers which can be used for oil, gas, petroleum product and electrical fires.

1. Fire extinguishers should be inspected on a semi-annual basis and recharged promptly after their use.

2. Firefighting equipment should be easily accessible.

3. Only approved gas cans with a pressurized safety cap should be used for transporting or storing fuel. Gas cans should be red and have the word "GASOLINE" printed on them.

4. Oily rags should be placed in metal safety containers with lids. Do not store rags in the open.

5. Change clothes immediately if oil, kerosene or any other flammable liquid has soaked into the fabric.

6. Oxygen deficiency and toxic gas detectors should be used to check for the lack of oxygen or the presence of harmful gases.

7. Underground structures and other confined spaces should be adequately ventilated before entry. The "buddy system" should always be used when entering confined spaces.

8. Respiratory equipment and safety belts should be used when working in potentially explosive or fire hazard situations.

**Bacterial Infections**

Make it a habit to thoroughly wash your hands before eating.

No cut or scratch should be considered minor. A 2 percent tincture of iodine or tincture of methiolate should be applied immediately to cuts or scratches.

**Safety Equipment**

If safe working habits are to be encouraged, utility staff must have access to and use of the proper types of safety equipment. The following list provides the basic safety equipment needed for the staff. The following list should not be construed as a complete list since each site may require unique equipment.

1. Hard hats reduce serious injuries or deaths due to head injuries. Hard hats should be worn whenever working in a trench or when the possibility of falling objects is present.

2. Ear protection is necessary when individuals are subjected to certain noise levels over various durations. Safety glasses/goggles are necessary when there is a possibility of eye injury.

3. Boots that are steel-toed safety boots should be worn to prevent injury to feet.

4. Rubber gloves should be worn when handling acids, alkalines, oils, solvents and other chemicals.

5. Safety harness, with at least 50 feet of nylon rope, is necessary for safely entering underground structures or other confined spaces.

6. Respiratory equipment is necessary for protection against noxious gases and oxygen deficient environments. Oxygen and toxic gas detection equipment is necessary to forewarn work crews of the danger of confined spaces.

7. Portable air blower is necessary to ventilate underground structures.

8. Fire extinguishers are necessary for fire control. ABC type recommended.

9. First Aid kit, the industrial purpose type, should be readily available at all work sites.

**Proper Use and Care of Equipment**

1. Employees shall use tools suitable for the job in progress and only those in good repair.

2. Employees shall avoid awkward positions when using tools to avoid possible injuries should the tools slip.

3. When using wrenches always pull the wrench toward you, protecting hands and knuckles in case the wrench slips.

4. Keep volt and amp meters in good working condition. You are dependent upon these instruments to tell you if a circuit is energized.

## PROPER PROCEDURES

**Entering Confined Spaces**

Confined spaces including tanks, vaults, wet wells, trenches, manholes, dry wells, or any space that is below ground level or has inadequate ventilation, has the potential for containing deadly gasses or contain material with the potential to engulf someone. The most common gasses encountered in the water – wastewater industry include: carbon monoxide, hydrogen sulfide, chlorine, sulfur dioxide and methane. Consult OSHA circular 3138-01R for additional confined space information.

1. Prior to entering any confined space, an instrument check of the space should be completed to determine the presence of toxic gases.

2. All confined spaces must have an operating ventilation fan. If a fan is not present and operating, personnel should not enter the confined space without an air pack or proper retrieval equipment.

3. Portable ventilation equipment should be readily available for use in case of failure of the normal ventilation equipment.

4. Under no circumstances should personnel enter a confined space without proper equipment or rescue personnel standing by.

Herbicides

Herbicides are normally used in water and wastewater operations to control weeds around fences, tank sites, hydrants and to control algae in lagoons.

1. Always mix herbicides in a clean disposable container.

2. Use of gloves and appropriate eye protection is recommended.

3. Apply herbicides in proper dosages using the recommended application procedures - algaecides for lagoons and weed killers for ground application.

4. Wash hands and clothing thoroughly after each application.

5. Clean and dispose of unused portions and packaging materials properly.

6. Empty containers shall be disposed of in a safe manner. They shall never be thrown into lagoons or storage tanks.

**Excavations**

Common hazards to which utility staff is exposed in the construction or repair of water & sewer lines include head injuries and trench cave-ins. Head injuries may occur when pipe or other materials are being lifted for installation, removal or storage. Hard hats should be worn by all personnel when working in the vicinity of a backhoe or when materials are being lifted.

When excavations are necessary for the repair of water lines, the following general guidelines should be observed:

1. Excavations in unstable soils require shoring and bracing.

2. Excavations in stable soil conditions should be limited to 4 feet in depth.

3. Where excavations require depths of greater than 4 feet, the trench should be shored, sheeted, braced, sloped, or otherwise supported to provide protection of the staff.

**Traffic Control**

Utility activities within the roadway right-of-way require attention to traffic control. The purpose for traffic control is to insure worker safety and to insure the safety of the public. This is accomplished by providing for the orderly and predictable movement of traffic, both motorized and pedestrian, through the work zone.

Traffic control devices (e.g., cones, signs, temporary signals and flagmen) are used to direct and assist vehicle operators and pedestrians in safely navigating through the work zone. The Manual on Uniform Traffic Control Devices provides basic principles for traffic control in construction or work zone areas and can be used as a guide by employees. The Kentucky Transportation Center of the University of Kentucky, Guidelines for Traffic Control in Work Zone, prepared by the Kentucky Transportation Center of the University of Kentucky, is a pocket-size, traffic control reference and is available to utility personnel.

## ACCIDENT REPORTING

**In Case of Traffic Accident**

1. Stop at once to determine if anyone was injured, the nature and extent of the injury, contact local dispatch and administer first aid and all reasonable assistance.

2. Obtain the names and addresses of all witnesses before they leave the scene of the accident.

3. Obtain the name and address of each driver involved, and the names and addresses of all passengers riding with such driver.

4. Secure all available data on each vehicle involved, including make, model, type, year, state, and license number.

5. Secure all available data from the operator, or driver's license of the driver of each vehicle involved.

6. Note the time and place of the accident.
7. Carefully list damage to each vehicle involved.
8. Secure the name and badge number of any police officials who appear.
9. If a parked vehicle is involved in an accident and the owner cannot be located, a notice should be left on or in the vehicle providing the name and address of the parties involved. Within 24 hours, the police, sheriff, or highway patrol should be notified of the accident.
10. Comply with other reports as required by state and local ordinance.
11. Avoid discussing the accident and make no admissions of responsibility to anyone except authorized representatives. Necessary data given to a law enforcement officer should be given in private. Never obligate your employer for damages or medical expenses for non-employees.
12. Report the accident to the main office location along with the above information.

## In Case of Public Accident

1. All accidents resulting in injury or death of a member of the public and in which the company may be involved shall be reported to the main office immediately.

2. In the event of damage to the property of a member of the public, such damage shall be reported to the main office immediately.

3. No employee shall make statements concerning liability or indicating that settlement will be made in any accident resulting in injury or property damage to a member of the public.

4. It is important that the names and addresses of all witnesses be obtained in all accidents involving the public.

Farmdale Water District
100 Highwood Dr.
FRANKFORT, KENTUCKY 40601

COMMISSIONERS:

Scotty Wooldridge
Johnathan Dailey
Eddie Harrod

TELEPHONE
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# MISSION STATEMENT

TO PROVIDE WATER SUPPLY AND WATER RESOURCE MANAGEMENT TO THE PUBLIC IN A SAFE, RELIABLE ENVIRONMENTALLY SENSITIVE AND FINANCIALLY RESPONSIBLE MANNER.

Farmdale Water District Staff and Commissioners

Appendix A
Hydrant Flushing Form

**Farmdale Water District**
**Hydrant Flushing Form**

| Date / Time | Hydrant I.D. | Location | Minutes Flushed | Pressure | | Gallons | Cl2 Residual | | Operator | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Static | Dynamic | Flush | Begin | End | Initial | |
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Appendix B
Valve Record Form

# VALVE RECORD

Location (street / address):

Type: | Make: | Size:

Opens: ☐ Left ☐ Right ☐ Other: | # of Turns:

Date Installed:

| Date Exercised | Closes/Opens? (Y / N) | # of Turns | Condition of Stem, Packing, Nut, Gearing, Etc. | Valve Status (Open or Closed) |
|---|---|---|---|---|
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Appendix C
Hydrant Inspection/Maintenance Form

# Hydrant Records

Hydrant No.:________ Date Installed:________________

Location:____________________________________________________________________

Brand:_________________ Type:_______________ Model:________________________

Opens: Clockwise ☐ Counterclockwise ☐

Number of Outlets:______ Size of Pumper Nozzle:______ Size of Other Nozzles:_______

Type of Nozzle Threadings:___________________________________________________

Size/Type of Base:__________________________________ Depth of Bury:_____________

Size of Main:_______Isolation Valve: Yes ☐ No ☐

| Flushing Dates | Reason For Flushing |
|---|---|
| | |
| | |
| | |
| | |
| | |

| Servicing Date | Static Pressure (psi) | Residual Pressure (psi) | Flow Pressure (psi) | Flow Rate(gpm) |
|---|---|---|---|---|
| | | | | |
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Remarks:

Appendix D
Storage Tank Inspection Form

# Water Storage Inspection

Type: ( ) Elevated ( ) Standpipe
( ) Ground Storage ( ) Clearwell

Size: ____________________ Location: ____________________

Date Constructed: ________________________________________

Type Tank: ( ) Welded Metal ( ) Steel-lined Glass
( ) Concrete

## Site:

1. Does site slope away from bank? ( ) Yes ( ) No
2. Is ground soft or soggy? ( ) Yes ( ) No

## Foundations:

1. Is the concrete foundation cracked? ( ) Yes ( ) No
2. Is the concrete foundation level? ( ) Yes ( ) No
3. Is there a gap between riser base and the concrete? ( ) Yes ( ) No
4. Condition of anchor bolts? ( ) Yes ( ) No

## Columns (Elevated Tanks Only)

1. Is there condensation on columns? ( ) Yes ( ) No
2. Are they straight? ( ) Yes ( ) No
3. Is there any slack in the diagonal X-rods? ( ) Yes ( ) No
4. Condition of bolted connection on riser rods? ( ) Yes ( ) No

## Tank or Shell

1. Any disfiguration in tank bottom, shell, roof or irregularities in the contour of the steel? ( ) Yes ( ) No
2. Are any weld seams concave? ( ) Yes ( ) No
   a. Are there any rust streaks originating from the weld seams? ( ) Yes ( ) No
   b. Any evidence of water leaking from tank? ( ) Yes ( ) No
3. Is there any metal loss by pitting? ( ) Yes ( ) No
4. Condition of finish coat? ( ) Good ( ) Fair ( ) Poor
5. Condition of intermediate coat? ( ) Good ( ) Fair ( ) Poor
6. Condition of primer coat? ( ) Good ( ) Fair ( ) Poor
7. Amount of surface area showing rust? ________________________
8. Any water ponding on roof? ( ) Yes ( ) No

Appendix E
Water Line Break/Repair Log

LINE BREAK LOGBOOK

*Required by 401 KAR 8:150, Section 4(2)(h)

| | |
|---|---|
| *Date | |
| *Location of break or rupture | |
| *Time it was discovered | |
| *Population effected | |
| *Length of time required to repair the break or rupture | |
| *Date and time disinfectant residuals are detected | |
| *Date and time bacteriological samples are taken | |

| | |
|---|---|
| *Date | |
| *Location of break or rupture | |
| *Time it was discovered | |
| *Population effected | |
| *Length of time required to repair the break or rupture | |
| *Date and time disinfectant residuals are detected | |
| *Date and time bacteriological samples are taken | |

# FARMDALE WATER DISTRICT SAFETY POLICY

## SAFETY

The objective of safety is to reduce the waste of human and natural resources. The purpose of a specific safety program is to reduce personal injury and damage to property in a particular situation. The intent of safety policies is to inform all employees of their responsibility for their own personal safety. By complying with the safety policy, each and every person greatly reduces the probability of personal injuries and injury to other employees. Our most Important and valuable asset is people who work for us. For this reason much effort is continually being expended to provide safe and healthful working conditions for each and every employee.

The employer has the over-all responsibility for promoting safety and to comply with all state and federal safety laws and regulations, including act of 1970 also referred to as OSHA. The employer shall not require and employee to work in surroundings or under working conditions which are unsanitary, unduly hazardous, or potentially dangerous to his/her health or safety.

## THE EMPLOYER'S RESPONSIBILITIES

1. Indoctrinate and familiarize all employees with their rights and responsibilities by reviewing the personnel manual in detail.
    a. This should be completed with new employees at time of hiring and before they start work.
    b. Use check list for indoctrination with new employee signing form.
2. To maintain and post where and when required, all posters and reporting forms as required by OSHA.
3. To initiate and maintain accident prevention programs.
    a. Maintain health and accident injury forms completely filled out on all recordable conditions for 5 years.
4. To provide a healthful a work environment as realistically possible.
5. To provide all employees with tools and equipment designed for the works, properly maintained and serviced.
6. To provide and maintain personal protective gear designed for protection of the employee relative to hazards to which each are being subject.
7. To encourage all employees to avail themselves of basic first aid training and retraining every three years.
    a. Make periodic checks on all employees for required licenses and training.
8. Be prepared to reprimand an employee who decides to carry out his work assignment contrary to policy.

**THE EMPLOYEE'S RESPONSIBILITES**

1. To familiarize oneself with the employer's general policy.
2. To adhere to the policy and cooperate to the best of his/her ability.
3. To report all job incurred injuries or illnesses to management the day of their happening.
4. To report all equipment or vehicle accidents or malfunction the day of their happening.
5. To use and/or operate all equipment and vehicles according to manufacturer's recommendations or company directive.

1. To have in one's possession a current valid driver's license when driving a company vehicle.
2. To never drive a company vehicle when under the influence of drugs or alcohol beyond acceptable limits established by the state.
3. To be a defensive driver at all times.
4. To not take undue chances or subject oneself to known hazardous conditions without taking precautionary measures.
5. To use personal protective gear whenever conditions warrant and to use said gear for only the use intended.
6. To practice basic good rules of sanitation and housekeeping.
7. To dress in good taste for the particular assignment but always fully clothed from ankle to neck.
8. To now location of first aid supplies and firefighting equipment at all times.
9. To know the location of the nearest medical emergency room, doctor and ambulance.
10. To observe and obey all "No Smoking" signs and areas.
11. To not under any conditions because involved in "horse play" that could result in injury to oneself or co-worker.
12. To lift properly when required to do so using the legs keeping the back straight.

14. **To not work alone when conditions could result in injury or be injurious to one's health.**
15. To be "first aid" trained and prepared to administer first aid in intelligent and humanitarian manner.

**SPECIFIC GUIDELINES**

1. When coming upon or being involved in an accident or suffering personal injury:

   1. **When coming upon an accident**

      a. Give first aid to accident victim in a conscientious manner taking into consideration your training and the extent and severity of the injury,

      b. Call or request that an ambulance service respond to the scene.

      c. Call or request that law enforcement personnel respond to the scene.

      d. Call or request that fire department personnel be called to the scene should conditions warrant.

      e. Assist in the control and movement of traffic until law enforcement arrives on the scene.

   2. **When involved in a vehicle accident**

      a. Respond to personal injury first.

      b. Call for law enforcement

      c. Move vehicle only if unit impedes the flow of traffic prior to law enforcement coming on scene.

      d. If you have a camera, take many pictures for all angles.

      e. Make a rough sketch of the accident scene showing position and direction of vehicles prior to the accident and position and direction of vehicles after the accident.

      f. Take measurement if nothing more than stepping off the distances.

h. Make note of road conditions (wet, icy, loose gravel, etc).

i. Make note of time of day.

j. Get names and addresses of as many witnesses as possible.

k. Give limited information to anyone investigating accident preferably no more than what is on your driver's license and vehicles registration card.

l. Notify company office of the accident

m. If vehicle not drivable, have unit hauled to a nearby storage lot.

3. **When company personnel suffer an injury or are involved in accident while on the job.**

a. Respond to personal injury first by giving oneself or co-worker first aid or requesting first aid, or getting professional attention.

b. Take pictures of accident scene.

c. Take measurements and location of equipment and tools.

d. Draw a sketch of the accident or injury scene.

e. Move no equipment, such as ladders, scaffolding or any work related equipment until an investigation of the accident can be made.

f. Note amount of artificial light if inside the building.

g. Notify company office with details to the best of your ability relative to the circumstances of the accident.

**ELECTRICAL**

1. **Failure**

    a. Become involved only to the extent of your **ability** and **training.**

    b. Notify the power company and/or an electrical contractor

    c. Notify management.

2. **Equipment**

    a. Use only grounded or double insulated tools.

    b. Use only grounded extension cords and trouble lights.

    c. Check all outlets to make sure they are functioning as a **grounded outlet**.

    d. Check all portable equipment regularly for grounding.

## UNDERGROUND

1. **Trenching Requirements**

   a. Banks more than 5 feet high shall be shored, laid back to a stable slope, or some other equivalent means of protection. Shall be provided where employees may be exposed to moving ground or cave-ins. Refer to chart as a guide in sloping of banks. Trenches less than 5 feet in depth shall also be effectively protected when examination of the ground indicates hazardous ground movement may be expected.

b. Slides of trenches in unstable or soft materials, 5 feet or more in depth, shall be shored, sheeted, braced, sloped, or otherwise supported by means of sufficient strength to protect the employees working within them.

c. Slides of trenches in hard or compact soil, including embankments, shall be shored or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. **<u>In lieu of shoring, the slides of the trench above the 5-foot level maybe sloped to preclude collapse, but shall not be steeper than a 1-foot rise to each ½ foot horizontal.</u>**

d. When employees are required to be in trenches 4 feet deep or more, an adequate means of exit, such as ladder or steps, shall be provided and located so as to requires no more than 25 feet of lateral travel.

**FIRE PROTECTION**

1. **Fire Extinguishers**

    a. Recommend a 20# A.B.C. type extinguisher to be mounted just inside door near or under light switch at each location.

    b. Recommend a 5# A.B.C. type fire extinguisher mounted in each vehicle.

        i. Each extinguisher should be check and serviced by an approved shop once a year.

    c. Each employee should know how to use the extinguisher effectively.

2. Housekeeping

    a. All storage of burnable or combustibles, including waste, must be controlled.

    b. No gasoline storage inside any building exceeding 5 gallons and then only in an **approved** safety can.

    c. Keep paths of travel free and clear of tripping hazards.

**FIRST AID**

1. **Training**

    a. All employees shall be trained in basic first aid with refresher courses as required, beginning with the first year of employment.

    b. All employees shall be trained in the use and care of respiratory equipment.

2. **Protective Gear**

    a. When conditions warrant protective gear **shall** be worn properly without exception.

        1. Safety hats

        2. Goggles

        3. Gloves

        4. Respirators

    b. Respirators shall be positioned in a fixed location ready to use.

3. **First Aid Supplies**

    a. Recommend that a 10 unit industrial type first aid kit be mounted near the fire extinguisher at each location.

    b. Recommend that a 10 unit industrial type kit be mounted in each vehicle.

        1. Kits must be checked regularly and supplies replenished.

    c. Recommend that a master kit be located and mounted at each headquarter office.

# FIRST AID GUIDE

## BLEEDING

Before providing care, put on protective gloves or use a barrier between you and the victim, to reduce the chance of disease transmission while assisting the injured person. Cleanse your hands thoroughly with soap and water when finished.

**Basic first aid treatment:**

- CALL 911 for medical assistance.
- Keep victim lying down.
- Apply direct pressure using a clean cloth or sterile dressing directly on the wound.
- DO NOT take out any object that is lodged in a wound; see a doctor for help in removal.
- If there are no signs of a fracture in the injured area, carefully elevate the wound above the victim's heart.
- Once bleeding is controlled, keep victim warm by covering with a blanket, continuing to monitor for shock.

## CLEANING & BANDAGING WOUNDS

- Wash your hands and cleanse the injured area with clean soap and water, then blot dry.
- Apply antibiotic ointment to minor wound and cover with a sterile gauze dressing or bandage that is slightly larger than the actual wound.

## EYE INJURIES

- If an object is impaled in the eye, CALL 911 and DO NOT remove the object.
- Cover both eyes with sterile dressings or eye cups to immobilize.
- Covering both eyes will minimize the movement of the injured eye.
- DO NOT rub or apply pressure, ice, or raw meat to the injured eye.
- If the injury is a black eye, you may apply ice to cheek and area around eye, but not directly on the eyeball itself.

**How to flush the eyes:** If chemical is in only one eye, flush by positioning the victim's head with the contaminated eye down. to prevent flushing the chemical from one eye to another. Flush with cool or room temperature water for 15 minutes or more. Remove contact lenses after flushing.

## BURNS

**First Degree Burn:** Skin will appear red and may be swollen or painful. Generally does not require medical attention.

**Second Degree Burn:** Skin will appear red, blistered and swollen. May require medical attention.

**Third Degree Burn:** Skin will be visibly charred and may be white. Usually very painful. REQUIRES MEDICAL ATTENTION.

**Basic first aid treatment for 1st degree & some 2nd degree burns:**

Submerge burn area immediately in cool water until pain stops. If affected area is large, cover with cool wet cloths. Do not break blisters if they are present. If pain persists but no medical assistance is needed, apply medicated first aid cream or gel and cover with sterile dressing. If medical attention is needed, do not apply any cream. Just cover with a dry, sterile dressing and seek medical help immediately. Basic first aid treatment for 3rd degree & some 2nd degree burns: CALL 911!! Third degree burns MUST RECEIVE MEDICAL ATTENTION IMMEDIATELY! DO NOT try to remove any clothing stuck to the burned area. Cover with sterile dressing or clean sheet. DO NOT apply any creams or gels.

## CHEMICAL BURNS

- Flush the affected area with cool running water for at least 15 minutes.
- Remove all clothing and jewelry that has been contaminated.
- Monitor victim for shock and seek medical assistance.
- If chemical burn is in the eyes, flush continuously with water and seek medical attention immediately.

## SUNBURN

- Avoid any further exposure to direct sunlight.
- Drink plenty of water to prevent dehydration.
- Do not apply cold water or ice to a severe burn.
- Use over-the-counter remedies to remove discomfort

**UNCONSCIOUSNESS**

- Do not leave an unconscious victim alone except to call 911 for medical help.
- Assess victim's state of awareness by asking if they are OK.
- Check the victim's Airway, Breathing, and Circulation (ABC's).
- If the victim's ABC's are not present, perform CPR. IMPORTANT: only a trained & qualified person
  should administer CPR.
- If ABC's are present and spinal injury is not suspected, place victim on their side with their chin toward the ground to allow for secretion drainage.
- Cover the victim with blanket to keep warm and prevent shock. If victim communicates feeling warm, remove blanket.

**CHOKING**

- Ask the victim, "Are you OK?"
- Do not interfere or give first aid if the victim can speak, breathe, or cough.
- If the victim cannot speak, breathe, or cough, ask for someone to call 911 and then perform the Heimlich maneuver (abdominal thrust).

How to perform the Heimlich maneuver: Position yourself behind the victim with your arms around victim's stomach. Place the thumb-side of your fist above the victim's navel and below the lower end of the breastbone. Take hold of your fist with your free hand and pull fist upward and in, quickly and firmly. Continue with thrusts until the object is dislodged or airway is clear.

**POISON**

- Call your local Poison Control Center or 911 for immediate medical attention.
- Antidotes on labels may be wrong!! Do not follow them unless instructed by a physician.
- Never give anything by mouth (milk, water, Ipecac, etc.) until you have consulted with a medical professional.
- Keep a one ounce bottle of Ipecac on hand at all times in case of an emergency, and give only when instructed by a physician.
- If the poison is on the skin, flush skin with water for 15 minutes, then wash and rinse with soap and water.
- If poison is in the eye, flush with lukewarm water for 15 minutes. Adults can stand under the shower with eyes open. Always consult medical professionals after any eye injury has occurred.

**ANIMAL BITES**

- Control any bleeding by applying direct pressure or with elevation. To avoid risk of infection, do not close wound.
- Rinse the bite thoroughly, holding it under running water. Cleanse with soap and water and hold under water again for five minutes.
- Do not put ointments or medicines on wound. Cover with dry sterile bandage or gauze.
- Seek medical assistance immediately.
- Note: report animal and human bites to local police and/or health authorities.

**BEE STING**

- If possible, remove stinger by scraping it off with a blunt edge (e.g. credit card).
- Clean wound and apply cold compress to reduce swelling.
- Remove tight clothing and jewelry from areas near the bite in case swelling occurs.
- Watch for signs of shock or allergic reaction. Signs include swelling or itching at the wound site, dizziness, nausea or difficulty breathing. Seek medical attention immediately if any of these signs occur.
- Continue monitoring victim for shock until medical help arrives.
- Check victim's Airway, Breathing, and Circulation (ABC's). If ABC's are impaired then call 911 and begin CPR. IMPORTANT: *only a trained & qualified person should administer CPR.*

Adapted from: www.firstaidproduct.com

# Emergency Action Plan

**Farmdale Water**

September 2022

# RESPONDING TO A CHEMICAL SPILL

If you have been directly exposed to a toxic chemical spill, remove any affected clothing and wash contaminated parts of the body with clean water and soap. Place contaminated clothing in a plastic bag, carefully sealing it and placing it inside another plastic bag. Call 911 and seek medical attention for anyone who has been exposed. For victims having difficulty breathing, make sure the airway is open and supply 100% oxygen if available. Avoid mouth-to-mouth resuscitation. There may or may not be an antidote or treatment for the chemical you are exposed to. If you have been exposed, follow decontamination procedures, which may include treatment in a hospital. Depending on the chemical, exposure may cause immediate as well as long term damage.

Key Points

- Turn off the building's HVAC or ventilation system.
- Head for higher or lower ground, depending on the chemical's properties.
- Remove affected clothing and seek medical help.
- Call 911 and await further instructions.

Your response to a chemical spill is determined by three things: where you are in relation to the spill, whether the chemical is lighter or heavier than air, and what direction the wind is blowing.

## IF A CHEMICAL HAS BEEN RELEASED OUTSIDE AND YOU ARE INSIDE A BUILDING

- ☐ Make sure the building's HVAC or ventilation system is turned off as soon as possible to prevent the chemical from being drawn in.
- ☐ If the chemical is lighter than air, move to the lowest level of the building or area. If it is denser than air or you don't know what the chemical is and what its properties are, head for the highest level.
- ☐ Call 911 and await further instructions.

## IF A CHEMICAL HAS BEEN RELEASED INSIDE WHILE YOU ARE INSIDE

- ☐ Make sure the building's HVAC or ventilation system is turned off as soon as possible to prevent the gas from circulating inside the building.
- ☐ Move to either the highest or lowest level of the building or area. Remember that the lowest point of your surrounding area may be the floor.
- ☐ Open any nearby windows and doors to allow any gas to escape from the confined area. Many chemicals evaporate and dissipate quickly in open areas.
- ☐ Get out of the building as soon as possible.
- ☐ Call 911 and await further instructions.

## IF A CHEMICAL RELEASE IS OUTSIDE AND YOU ARE OUTSIDE

- ☐ Go upwind and leave the area immediately.
- ☐ Take shallow breaths.
- ☐ Cover your face with a shirt, only removing it to peek, and then cover up again.

Farmdale Water

# Checklist

# GO2KIT

## GO2KIT ITEMS:

- ☐ Battery operated radio, flashlight and extra batteries
- ☐ Whistle
- ☐ Pocket knife
- ☐ Permanent marker, paper and tape
- ☐ N-95 respirator mask or dust mask
- ☐ First aid kit, including scissors, tweezers and potassium iodine (KI)
- ☐ Emergency blanket, sturdy shoes and a change of clothes
- ☐ Toothbrush and toothpaste, prescription medications and other personal items
- ☐ Cash: small denominations and coins
- ☐ Local map
- ☐ Plastic water bottles
- ☐ Non-perishable, "easy access" food, such as granola bars
- ☐ Copy of driver's license, insurance and social security cards
- ☐ List of emergency point-of-contact phone numbers
- ☐ List of food and drug allergies (especially antibiotics)
- ☐ Extra keys to your house and vehicle

## ADDITIONAL ITEMS FOR A FULL 72-HOUR EMERGENCY KIT:

- ☐ Three-day supply of water (one gallon per person, per day), non-perishable food and a can opener
- ☐ NOAA weather radio (in addition to battery-powered radio)
- ☐ Plastic bucket, heavy-duty garbage bags, plastic ties and disinfectant and bleach for waste and sanitation
- ☐ Moist towelettes and/or hand cleanser
- ☐ Plastic sheeting, duct tape and utility knife to shelter in place
- ☐ Fire extinguisher
- ☐ Rain gear and tent
- ☐ Matches in a waterproof container
- ☐ Mess kits, disposable cups/plates/utensils and paper towels
- ☐ Signal flares
- ☐ Extra change of warm clothes and extra blanket or sleeping bag
- ☐ Disposable camera
- ☐ Heavy work gloves and basic toolkit, including an adjustable wrench or pliers to turn off utilities

## OTHER SUPPLIES TO CONSIDER FOR A FAMILY EMERGENCY SUPPLY KIT:

- ☐ Special items for children, seniors, or individuals with disabilities (e.g. diapers, hearing aids, etc.)

# HOW TO SAFELY MOVE THE INJURED

Only move an injured person before medical help arrives if they are in danger of further injury.

## BEFORE YOU MOVE AN INJURED PERSON:

- ☐ Control bleeding.
- ☐ Maintain breathing.
- ☐ Splint all suspected fractures.

## DRAGGING TO SAFETY:

- ☐ Firmly grasp the person's collar or clothing so their head is resting on your forearms.
- ☐ Keep their head as close to the ground as possible.
- ☐ Keep their body in a straight line- do not bend.
- ☐ Make sure their clothing is not pulled so tightly around their neck that it obstructs their airway.

## LIFTING TO SAFETY:

- ☐ If the person much be lifted before you can check for injuries, support every part of their body.
- ☐ Keep their body in a straight line- do not bed.
- ☐ Use a three person carry method, where one person supports the upper torso, one the lower torso, and one supports the legs.

## CARRYING TO SAFETY:

- ☐ Use a stretcher if possible, or strap the person to a makeshift board such as a door.
- ☐ If necessary, improvise with clothing or a blanket placed over sturdy poles or branches.
- ☐ Use a carry method appropriate for the number of people available to help, the type of injury, and the amount of space.
- ☐ Older or heavy injured persons can be carried on a chair.

# RESPONDING TO CHOKING

Choking occurs when a persons' airway is obstructed from breathing. If a person is choking, and someone can quickly act to help, the person has a higher probability of surviving the incident. **It is highly recommended to become first aid and CPR certified before performing these tasks**; however, if there is no one more qualified around, perform these steps.

## SIGNS OF CHOKING

- ☐ The universal sign for choking is when a person will clutch both of their hands to their throat.
- ☐ Inability to breathe, talk, or cough forcefully.
- ☐ Skin, lips and nails turning blue.
- ☐ Loss of consciousness.

## RED CROSS RECOMMENDED RESPONE FOR CHOKING OF A CONSCIOUS CHILD OR ADULT

- ☐ Give 5 back blows: use the heel of the hand to forcefully strike between the persons' shoulder blades.
- ☐ Give 5 abdominal thrusts: also known as the Heimlich maneuver.
    - Stand behind the person and wrap your arms around waist, tip the person forward slightly.
    - Make a fist with one hand, placing the thumb side against the person's abdomen, midway between the navel and the end of the breast bone.
    - Grab your fist with the other hand and press the fist onto the abdomen with a quick upward and inward thrust.
- ☐ Alternate between 5 blows and 5 thrusts until the blockage is dislodged, the person loses consciousness or medical help arrives.

## RED CROSS RECOMMENDED RESPONSE FOR ABDOMINAL THRUSTS ON YOURSELF

- ☐ Place one of your fists slightly above your navel.
- ☐ Grasp your fist with the other hand and bend over a hard surface, such as a chair or countertop.
- ☐ Shove your fist inward or upward and thrust your abdomen into the surface or chair.

## IF THE PERSON IS UNCONSCIOUS

- ☐ Lower the person onto their back and to the floor.
- ☐ Clear their airway is there a visible blockage by reaching a finger into the mouth and sweeping out

# EXTREME COLD: HYPOTHERMIA & FROSTBITE

Prolonged exposure to the cold during winter weather can be dangerous. Be aware of signs of hypothermia (abnormally low body temperature caused by prolonged exposure to the cold) and frostbite (caused by freezing, most often affecting fingers, toes, nose, ears, cheeks or chin). If you suspect someone has either of these, seek medical attention as quickly as possible to reduce potential long-term damage.

Key Points
- Cover extremities if going outside is unavoidable.
- Know the signs of hypothermia/frostbite.
- Contact medical assistance immediately.
- Keep afflicted persons warm with blankets.

## SYMPTOMS OF HYPOTHERMIA

- ☐ Shivering and exhaustion
- ☐ Confusion or memory loss
- ☐ Slurred speech
- ☐ Drowsiness
- ☐ Lack of fine motor skills
- ☐ Bright red skin that is cold

## TREATING HYPOTHERMIA

If a person with symptoms of hypothermia has a temperature below 95°F or is unconscious, get emergency medical attention immediately. If possible, begin the following until help arrives:

- ☐ Get the individual inside and remove any wet clothing.
- ☐ Warm the head, chest, neck, and groin with an electric blanket, if available, or cover the individual with blankets and use your body heat to add warmth until medical help is available.
- ☐ If the person is conscious, provide warm, non-alcoholic, non-caffeinated drinks.
- ☐ If the person is unconscious and no pulse or breathing is apparent, provide CPR and warmth until the individual responds or medical aid becomes available.

## SYMPTOMS OF FROSTBITE

- ☐ Loss of feeling and color in affected area
- ☐ Skin that feels waxy or unusually firm

## SYMPTOMS OF FROSTBITE

Frostbite requires medical care. If you see symptoms of frostbite, check, too, for symptoms of hypothermia, as both result from exposure to cold. If both are present, treat the more serious hypothermia first. To treat frostbite, if medical care is not immediately available:

- ☐ Get inside and remove wet or restrictive clothing from the affected area.
- ☐ Avoid walking if toes are frostbitten to reduce damage.

# ZIKA VIRUS: CHECKLIST FOR EMPLOYERS

Zika virus is a mosquito-borne illness spread mostly by the Aedes species, which is an aggressive mosquito that bites mostly during the day, but is also known to bite at night. Zika can also be sexually transmitted, as well as passed from a pregnant woman to her fetus. Most adults show no symptoms or mild symptoms that last several days to a week. Symptoms to look for include fever, rash, joint pain, red eyes, muscle pain and headache. In a small number of cases Zika has triggered Guillain-Barre Syndrome (GBS), a rare sickness that can cause muscle weakness and paralysis.

With the continuous spread of Zika virus, it is important to be prepared for an outbreak near your workplace and occupational travel locations.

Key Points

- Create a work from home plan.
- Train workers about the risks of exposure to Zika and how to protect themselves.
- Be sure all employees know which methods of communication to use for emergency updates.
- Provide employees with tips on preventing mosquito bites.

## HOW TO PREPARE YOUR WORKPLACE FOR A ZIKA OUTBREAK:

- ☐ Make sure your plan is up to date on what to do if there is a reduced work force.
- ☐ Be sure all employees know which methods of communication to use in the event you need to enact a work from home plan. Make sure to test your emergency notification system in case that is needed.
- ☐ Train workers about the risks of exposure to Zika and how to protect themselves.
- ☐ Increase pest control at your workplace, and if necessary provide employees with an EPA-registered insect repellent and encourage them to use it.
- ☐ Remove standing water around your workplace and encourage employees to do the same at home - mosquitoes like to breed in stagnant water.
- ☐ If possible, delay travel to Zika-affected areas, especially for workers who are or may become pregnant or whose sexual partner may become pregnant. View the Centers for Disease Control and Prevention website for a regularly updated list of affected countries and territories by clicking here.

## HOW TO RESPOND TO AN OUTBREAK IN OR NEAR YOUR WORKPLACE:

- ☐ If any employee is returning from a Zika-affected area, suggest that he/she visit a doctor to get tested for the virus. It is best to be tested regardless of experiencing symptoms since most who are infected show no symptoms. Be cautious of making it a requirement. According to the Americans with Disabilities Act (ADA), a medical exam is only justified if you believe an employee will pose a direct threat to others due to his/her medical condition. Also, requiring an employee who is showing symptoms to work from home could lead to legal liability since there is little risk of transmission.
- ☐ Allow employees who are pregnant or trying to conceive to choose to delay or not to go on a business trip to Zika-affected areas, but do not take away the option for travel. The U.S. Supreme Court stated that Title VII prohibits employers from not allowing employees to travel based on reproductive health risks.

# RESPONDING TO EXTREME HEAT & HRIs

Extreme heat can make it more difficult for the body to maintain a safe temperature, causing health problems to arise. This can lead to heat-related illnesses (HRI), such as heat cramps, heat exhaustion, and heat stroke. Drinking plenty of non-carbonated fluids or water; staying in cool, air-conditioned areas; cooling off in a shower or bath; wearing lightweight, breathable, loose fitting clothing; limiting physical activity during 10 am—3 pm; and wearing a wide-brimmed hat with a vent can reduce HRIs. Use this checklist to help you respond should you find yourself or someone else suffering from HRI symptoms.

Key Points

- Drink plenty of non-carbonated fluids.
- Move affected person to a cool area.
- Give cool fluid in small amounts.
- Call 911 if symptoms worsen.

## RESPONDING TO HEAT CRAMPS

A warning sign of a more serious HRI, heat cramps are characterized by painful muscle spasms, usually in legs or abdomen.

- ☐ Help the individual to a cool place, lightly stretch the muscle, and massage the area gently.
- ☐ Give them a sports drink, milk, or fruit juice; if unavailable, water is acceptable.
- ☐ Do NOT give the person salt tablets.
- ☐ If symptoms stop and no other symptoms exist, the individual can resume normal activity as long as their health is monitored and they drink plenty of fluids.

## RESPONDING TO HEAT EXHAUSTION

Symptoms of heat exhaustion include cold, moist, pale, ashen, or fluxed skin; headache, nausea, or dizziness; and weakness or exhaustion.

- ☐ Move the individual out of the heat and into a location with circulating air.
- ☐ Loosen and remove clothing to apply cool, wet towels or cloths, remoistening periodically.
- ☐ Spray the person with water and fan them.
- ☐ Give small amounts of a cool fluid as above, slowly (4oz every 15 minutes).
- ☐ The individual should rest for the remainder of the day.
- ☐ If they refuse fluids, lose consciousness, or vomit, call 911, stop giving fluids, place them on their side, and keep them cool.

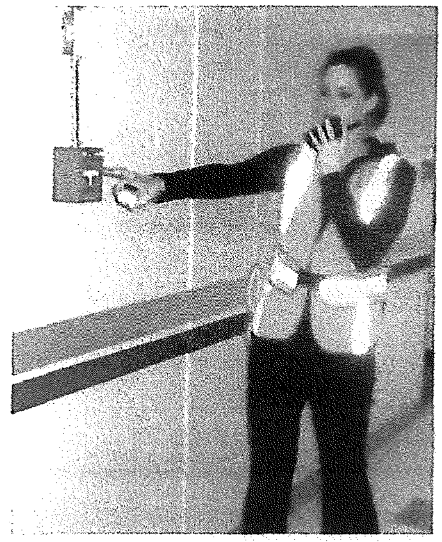
## RESPONDING TO HEAT STROKE

This severe and life-threatening form of heat illness occurs if symptoms of heat exhaustion are ignored. Symptoms include: extremely high body temperature; red skin (either dry or moist); changes in consciousness; rapid, weak pulse; rapid, shallow breathing; confusion, vomiting, or seizures.

- ☐ Call 911 immediately. Until help arrives, try immersing the person in cold water up to the neck.
- ☐ If this is not possible, pour water on them, sponge them with cold wet towels, rotating often, or cover them with ice bags.

# Fire Procedures

- All fires must be reported to **911** (remember you have to dial a 9 to get an outside line at your location).
- Alert Board Members as soon as safely possible
- Alert others in the area by:
  - Shouting to others in the immediate area (fire, fire, fire)
- If the fire is small or confined **and** you are trained, attempt to extinguish it with a fire extinguisher.
- If you are told to evacuate, use the nearest exit to the safe assembly area.
- Use caution, there may be areas in or around the building you need to avoid.



# Building Evacuation

If you are instructed to evacuate:

- Evacuate by the nearest exit.
- Remain calm and assist others as needed.
- **DO NOT** attempt to return to the building
- Move out and away from the building to the safe assembly area
- Be on the alert for incoming emergency vehicles as you are evacuating the building.
- **DO NOT** leave the safe assembly area until the officer in charge announces the all clear.
- Stay with your evacuation group for a head count by section/unit supervisors.

# RESPONDING TO WORKPLACE VIOLENCE

A workplace violence threat can range from verbal abuse to physical assaults to even homicide. These situations can occur at any work site and at any time, so it is important to be prepared.

To help prevent or minimize the threat of workplace violence, tell your Crisis Leader or Crisis Manager if you notice any co-worker behaving suspiciously or if you think a workplace violence incident could be imminent. Use this checklist to help guide your response to a workplace violence situation.

Key Points

- Remain calm and non-confrontational.
- Focus on areas of agreement.
- Attempt to set limits.
- Seek help from security or police.

## IF AN INDIVIDUAL DISPLAYS DISRUPTIVE BEHAVIOR BUT DOES *NOT* SEEM DANGEROUS AND NO WEAPON IS PRESENT

- ☐ Display empathy. Ask questions to demonstrate concern and interest. Summarize what you hear the individual saying to reflect your attention.
- ☐ Consider offering an apology to calm the individual and encourage cooperation; for example, "I'm sorry that happened. What can we do now that will solve the problem?"
- ☐ Focus on areas of agreement to help resolve the problem.
- ☐ If this doesn't work, calmly and firmly set limits.
- ☐ If the disruption continues despite a warning, tell the individual that the discussion is over, and direct them to leave the office.
- ☐ If the individual refuses, seek assistance from security.

## IF AN INDIVIDUAL *DOES* SEEM DANGEROUS BUT NO WEAPON IS PRESENT

- ☐ Set a distress signal with a co-worker before the meeting so you can signal them to alert your supervisor or the police if you need assistance.
- ☐ Maintain a safe distance, do not turn your back, and stay seated if possible. Always sit near an open door.
- ☐ Be calm and non-confrontational and allow the person to describe the problem.
- ☐ NEVER touch the individual yourself or try to remove him/her from the area. Even a gentle push or holding the person's arm may be interpreted as an assault by an agitated individual. They could respond with violence towards you or file a lawsuit later.
- ☐ Set limits to indicate the behavior change needed to deal with the concern, e.g. "Please stop shouting or I'll have to ask you to leave."
- ☐ Do not mention discipline or the police if you fear an angry or violent response.
- ☐ If the situation escalates, find a way to excuse yourself, leave the room, and get help.

## IF A WEAPON IS PRESENT OR VIOLENCE APPEARS TO BE IMMINENT

- ☐ Call 911 immediately.
- ☐ Do not attempt to intervene physically or deal with the situation yourself.
- ☐ Get yourself and others to safety as quickly as possible.

# Severe Weather

- If you receive an announcement to seek shelter, please evacuate to the area designated as **TORNADO SHELTER.**

- Remember your options: center hallway or get under something sturdy as a last resort. Stay away and clear of all glass.

## Severe Weather Shelters

*Please familiarize yourself with these shelters so that you know where to go in the case of severe weather.*

**Office**

- Men's and women's restrooms
- Entire back hallway near the upper canteen

# Earthquake Procedures

- ***Indoors: <u>Drop, cover, and hold on</u>.*** Drop to the floor; take cover under a sturdy desk or table, and hold on to it firmly. Be prepared to move with it until the shaking stops. If you are not near a desk or table, drop to the floor against the interior wall and protect your head and neck with your arms. Avoid exterior walls, windows, hanging objects, mirrors, tall furniture, large appliances, and kitchen cabinets with heavy objects or glass. Do not go outside!

- ***Outdoors:*** Move to a clear area if you can safely do so; avoid power lines, trees, signs, buildings, vehicles, and other hazards.

- ***Driving:*** Pull over to the side of the road, stop, and set the parking brake. Avoid overpasses, bridges, power lines, signs and other hazards. Stay inside the vehicle until the shaking is over. If a power line falls on the car, stay inside until a trained person removes the wire.

# Hazardous Material Incidents

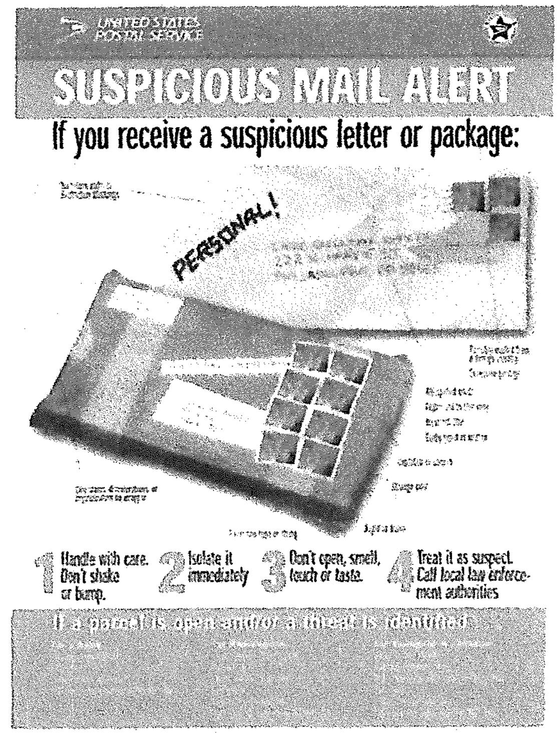
- Hazardous material incidents, to include chemical spills and leaks, must be reported to **911** and the Board of Director's.
    - Evacuate the immediate area
    - Alert others to the hazardous condition

- If you are instructed to evacuate follow the established procedures as given in the Building Evacuation section. Once at your assembly area await further direction.

- If you are instructed to "shelter-in-place" remain indoors and wait for further direction.

# Mail-Delivered Threats

- Call your supervisor Assigned staff will contact emergency personnel if needed.




- Listed below are some warning signs for SUSPICIOUS MAIL and WHAT TO DO if you receive a letter or package that you suspect of containing ANTHRAX or any other dangerous GERM.

- **SUSPICIOUS MAIL:**

– Unexpected mail
– No return address or unfamiliar return address
– Excessive postage
– Message reading "personal" or "to be opened by addressee only"
– Postmark does not match return address
– Lopsided or bulky
– Strange odor or ticking sound
– Mailed from a foreign country
– Excessive wrapping, tape or string
– Oily stains, discoloration or crystallization on wrapper

## How to Handle Suspicious Mail

- Don't open it. Double bag the suspicious mail in a sealed plastic bag. USE LATEX GLOVES. If you can't find a container, cover the envelope or package with clothing, paper, or a trash can and DON'T remove this cover.

- Leave the room and close the door. Keep others from entering the room

# Workplace Violence

- The Farmdale Water District does not tolerate any actions that threaten its employees. Any such action will be dealt with immediately by management personnel.

- This includes verbal and physical harassment, verbal and physical threats and any actions that may cause others to feel unsafe in their workplace.

- It is the responsibility of all employees and management to report threatening actions whenever they occur.

  Resources.

- All threatening incidents will be investigated by management and documented in personnel files.

- Call your supervisor If the harm is imminent or potentially dangerous, immediately call **911.**

# Active Shooter

- In an active shooter situation, you should quickly determine the most reasonable way to protect your own life. You should:
  - **RUN:** If there is an accessible escape path, attempt to evacuate the premises.

  - **HIDE:** If evacuation is not possible, find a place to hide where the active shooter is less likely to find you.

  - **FIGHT:** As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter.

- Call your supervisor and the Board of Director's and explain the situation. Assigned staff will contact emergency personnel if needed.

- Remove contaminated clothing and put it into a plastic bag that can be sealed. Give to Law Enforcement.

- Shower with soap and water as soon as possible. DO NOT USE BLEACH OR DISINFECTANT ON YOUR SKIN.

- List all people who were in the area when the suspicious letter or package was recognized. Give this list to law and health officials for follow-up investigations.

## Envelope with Powder & Powder Spills on Surface

**DO NOT** try to clean up the powder. Cover the spilled contents **IMMEDIATELY.**

- Then leave the room and close the door.

- Wash your hands with soap and water.

- Call your supervisor. Assigned staff will contact emergency personnel if needed.

- Remove heavily contaminated clothing as soon as possible and place in a plastic bag that can be sealed. Give bag to emergency personnel. Shower with soap and water as soon as possible.

- Remain calm and follow instructions.
- Put down any items and immediately raise your hands while spreading your fingers.
- Avoid making any sudden movements and keep your hands visible at all times.

- If possible, immediately report the threat to **911.**

- If you can safely call another number, report the situation to your supervisor and/or the Board Director

Your name: ______________________________

**Ask:**

1. Who are you?
2. Where are you?
3. What do you want from us?

4. What are you going to do?

5. Why are you doing this?

**Caller's Exact Words:**

**Try to estimate the following while speaking to the caller:**

Adult _____ Teen ____ Child ______

Approx. Age. _________

**Circle any and all characteristics that apply to the caller:**

| **Voice:** | **Speech:** | **Manner:** | **Background Noise:** |
|---|---|---|---|
| Loud | Fast | Calm | Talking |
| Highly pitched | Distinct | Rational | Laughing |
| Raspy | Stutter | Coherent | Music (describe ________________) |
| Soft | Slurred | Deliberate | Machinery |
| Deep | Slow | Righteous | Typing |
| Pleasant | Distorted | Angry | Traffic |
| Monotone | Nasal | Irrational | Trains |
| | Lisp | Incoherent | Planes |
| | | Laughing | Boats |
| | | Crying | Restaurant/Bar |
| | | | Party |
| | | | Quiet |

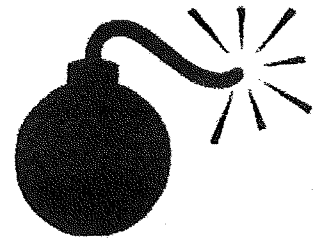
| **Word Choice:** | **Accent:** |
|---|---|
| Very educated | Local |
| Average | Foreign |
| Poor | Race |
| Foul | Region |
| Other _______________ | |

# Violence Documentation Form

Report Prepared By: ___________________________

Date Prepared: ______________________

| | |
|---|---|
| Date/Time of Incident: | Date/Time Reported: |
| Reported To: | Reported By: |
| Location: | Type of Incident: |
| Perpetrator: | Victim: |
| Witnesses: | |
| Describe the Incident: | |
| List Actions Taken in Response: | |



# Bomb or Other Security Threats

- If you receive a threat by telephone, try to obtain the maximum information from the caller. Keep the caller on the line as long as possible.

- Call **911** immediately to report the incident.

- Notify your Supervisor

- Do not attempt to leave the building or make any decisions concerning the threat without specific instructions from the person at **911 or the assigned building services staff.**

- If an evacuation is ordered, please follow instructions closely and leave the building for the safe assembly area.

**How to define DIfficult, Irate and Threating calls:**

**Difficult calls:** Calls that are complex or challenging and involve customers of issues such as cut-offs, calls that are "bad news" for the workers

**Irate calls:** Calls where the member is upset, verbally abusive, cursing, condescending, irrational, etc.

**Threatening calls:** Calls where an individual threatens harm to Farm Dale Water or themselves or

other individuals.

**How to Handle Difficult or Irate Calls:**

- Focus the conversation towards pertinent details.
- Stay polite but firm with your responses.
- Empathize when the situation calls for it.
- Advise that you are trying to help.
- Apologize for the inconvenience the issues caused. Do not admit fault if it is inappropriate.
- Control the call. Maintain your tone of voice as a raising or lowering can further fuel tensions.
- Warn the Customer once that this type of communication is inappropriate and if they continue to speak in this manner the call will be terminated. If this occurs, you may disconnect the call. Make Journal entries documenting the event a Do not embellish. Journal comments should remain

- When a person makes a threat on the phone, regardless of where it was directed, this must be reported to your Supervisor.
- Threats are very serious and must not be taken lightly.
- The procedure for a threatening call is different than for difficult or irate calls.
- Remain calm.
- Keep talking. Don't hang up.
- Signal a co-worker or management to assist you.
- Ensure the call is being recorded; if not, document the
- Try to obtain name, location, and phone number if possible.
- Repeat questions if necessary.
- Engage agency emergency contact/management.

**Threatening and/or abusive office visitors:**

When an office visitor is threatening and/or abusive

- Keep the office door open. If Desktop recording available, use it. (Note-not everyone has this tool).
- Use the same techniques as mentioned above for a threatening/abusive call.

When working on weekends or outside of the standard business hours of Monday – Friday from 8:00 AM to 4:30PM, should an unauthorized person attempt to gain access to Farmdale Water building, please follow these steps:

**If feeling threatened, call 911.**

- Contact your supervisor or another management team to alert them to the situation. Management will notify the Facilities Board p

- If your supervisor is not on premises, contact them immediately with details of the incident.

Checklist

# RESPONDING TO LIGHTNING

Lightning strikes are responsible for around 51 deaths and hundreds of injuries in the US each year. Unfortunately, delayed response to the threat of lightning leads to many of these deaths and injuries. Use this checklist to help you prepare to protect yourself from a lightning incident.

## PREPARE FOR LIGHTNING

- ☐ Remember the phrase, "When thunder roars, go indoors."
- ☐ If you hear thunder, immediately seek shelter inside. The best place to take shelter is in a building or vehicle with a hard top.
- ☐ Stay away from bodies of water including pools, lakes, and oceans.

## DURING EXTREME LIGHTNING

- ☐ Wait inside for at least 30 minutes after you hear the last clap of thunder.
- ☐ Avoid showering, taking a bath, or using water sources, as metal piping may conduct electricity.
- ☐ Do not use a phone connected with a cord, unless it is an emergency.
- ☐ Disconnect all appliances, computers, televisions, and other important electrically powered items to prevent damage from power surges.
- ☐ If caught outside during a lightning storm, do NOT take shelter near tall or isolated trees. Take shelter in a low-lying area with small, dense tree coverage.
- ☐ If you or someone near you is struck by lightning, call 911 immediately. If they are unconscious, perform CPR (if trained and certified to do so) until first responders arrive.

## AFTER A LIGHTNING STORM

- ☐ Lightning typically comes with thunderstorms and intense rain, so be aware of flash flooding.
- ☐ Be aware of possible downed trees and power lines.

- ☐ Most people who are struck by lightning survive, but may have long-term debilitating symptoms. These may include damage to the nervous system, permanent or temporary hearing and vision loss, broken bones, and burns.

## REMEMBER

- ☐ There is no danger of electric shock from touching a person who has been struck by lightning.
- ☐ "Heat lightning" is a myth; the lightning is in fact too far away to hear the thunderclap.

## During a Tornado

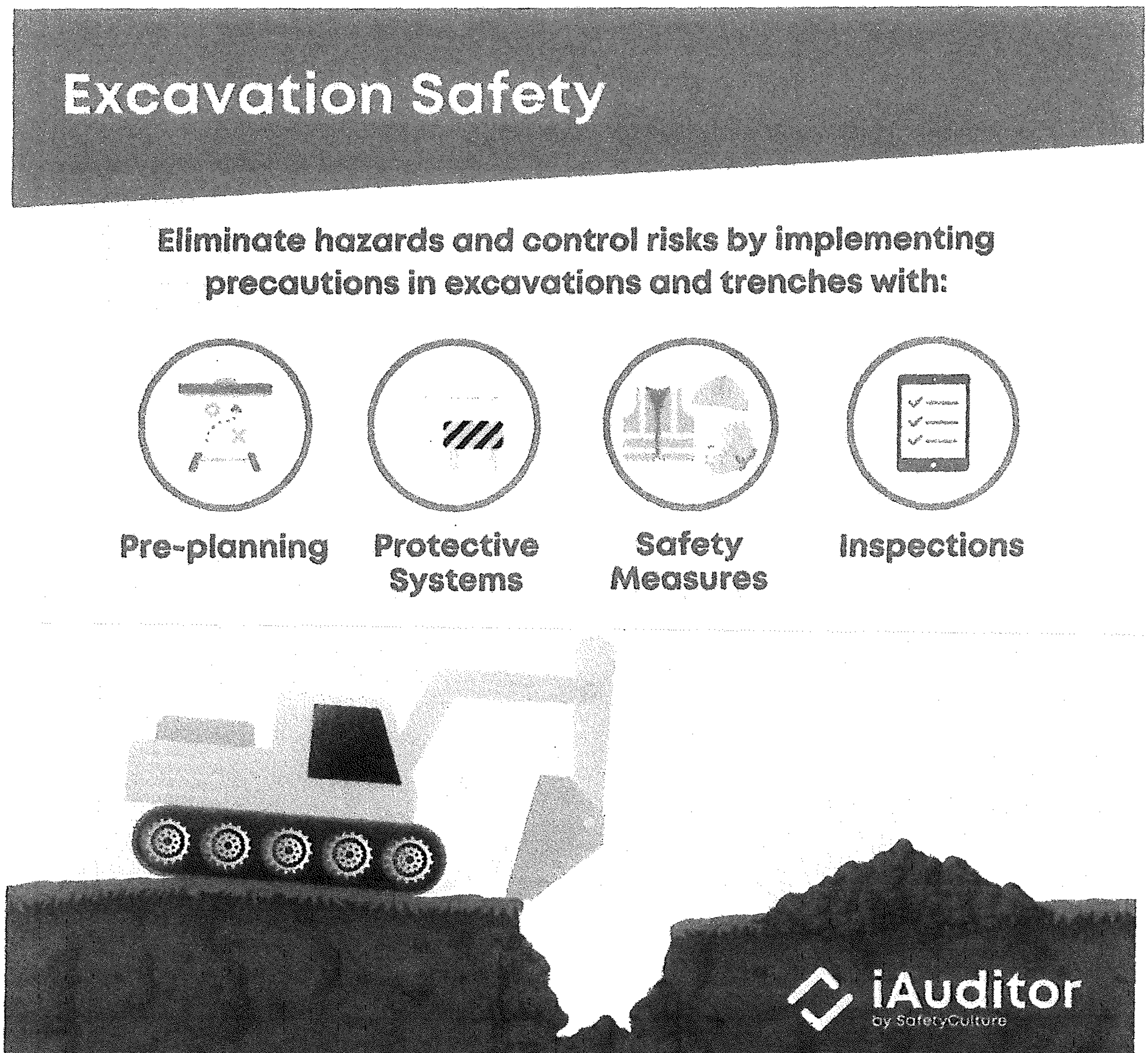
- Follow the instructions given by local emergency management officials.
- Know the difference between a tornado watch and a tornado warning.
- If you're inside, stay away from the windows and seek cover in a basement. If you don't have a basement in your office, go to the lowest floor of the building and seek shelter in a small center room (such as a bathroom or closet), under a stairwell or in an interior hallway with no windows.
- If you're caught in the middle of a tornado while in your car, stay put.

## After a Tornado

- Account for all employees.
- Address staff injuries. For those severely injured, call 911.
- When safe, inspect both the exterior and interior of the building for damage.
- Avoid downed power lines.
- Communicate with employees, customers and vendors to let them know the status of your business.
- Review your plan to determine what worked and what areas needed improvement.

# What is Excavation Safety?

Excavation Safety is a standardized set of safety precautions for trenching and excavation to eliminate hazards and control risks in compliance with regulations. It is also referred to as Trenching and Excavation Safety as often cited by the U.S. Occupational Safety and Health Administration (OSHA).



## What are OSHA Excavation Standards?

OSHA excavation standards are specifications of requirements for trenching and excavation, including protective systems. In U.S. federal regulations, OSHA standards for excavations are specifically found in Title 29 (Labor) Part 1926 (Safety and Health Regulations for Construction) Subpart P (Excavations), or 29 CFR 1926 subpart P. The excavation regulation also contains appendices for the following:

- Soil Classification;
- Sloping and Benching;
- Timber Shoring for Trenches;
- Aluminum Hydraulic Shoring for Trenches;
- Alternatives to Timber Shoring; and
- Selection of Protective Systems.

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## What is the Difference Between Trenching and Excavation?

The scope and application of excavation standards states that excavations include trenches which means that a trench is a type of excavation. Moreover, a trench is further defined as a narrow excavation in relation to its length, and it is generally greater in depth than width. The main difference is that "excavation" is the umbrella term that encompasses any man-made cut in an earth surface, including trenches. While a trench can be called a trench excavation and all trenches are excavations, not all excavations are made up of trenches only.

---

## Why is Excavation and Trench Safety Important?

Excavation and trenching are amongst the most dangerous operations in the inspections can reduce hazards and serious risk of injury. Safety inspections should check for the type of excavation being conducted, support and warning systems in place, access areas, weather conditions, heavy equipment, and PPE.

**Stop and Think Through the Task**

- Do I clearly understand what is required?

  Yes

  No

  N/A
- Am I trained to do the work and familiar with the equipment/task?

  Yes

  No

  N/A
- Are the tools and equipment in a safe condition?

  Yes

  No

  N/A
- Do I have approved documentation for the task?

  Yes

  No

  N/A
- Have I informed others who may be affected by my work?

  Yes

A cave-in is probably the deadliest excavation hazard, where walls can suddenly collapse without warning, workers do not have time to move out of the way, and cubic yards of dirt can fatally crush and suffocate. U.S. Bureau of Labor Statistics data reveal that 3 out of 4 excavation-related fatalities are caused by cave-ins.

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# What are the Safety Measures for Excavation?

An OSHA investigation reported that the main reason why trenches collapse is that they are not properly protected. Protective systems such as sloping the ground, benching the ground, shoring the trench with supports such as planking or hydraulic jacks, and shielding the trench using a trench box should be properly implemented at all times.

Other excavation safety measures include:

- Collapsing should be avoided by supporting the sides by either battering them or supporting them with sheets.
- Materials from the excavation should be stored at a safe distance from the excavation, this will help reduce the risk of them falling onto people.
- Adding barriers to excavation is an essential precaution to avoid people falling into the excavation.
- It is safer if vehicles are kept completely out of the excavation area, but if required the use of barriers and stop-blocks should help mitigate that danger.
- Cable, pipe, and service plans should be used to ensure that underground services are known so they can be marked on the ground or, ideally, the area avoided entirely.
- Around the areas where there are underground services, mechanical equipment should be avoided and instead use spades and/or shovels.
- Picks and forks should be avoided as they are more likely to pierce cables and pipes.
- Flooding can be avoided by ensuring that there is appropriate pumping equipment so that any water that seeps into the excavation can be easily pumped out to a safe area.

---

# Examples of Excavation Protection

OSHA requires employers to implement protective measures for the safety of employees, contractors, and subcontractors before they can work on and near

- **Structural ramps** – whether for the exclusive use of employees or of equipment around excavations, structural ramps must be built according to the design of a competent person.
- **High-visibility vests** – employees who are not only working around excavations but are also exposed to public traffic must wear high-visibility vests or clothing with similar reflective material.
- **Warning signs** – mobile equipment operators who do not have easy visibility of the edge of excavations should be able to see warning signs such as barricades which will indicate proximity to excavations.
- **Testing** – the condition of the atmosphere in and around excavations must be tested to ensure that it is safe even before employees are allowed to work at the site.
- **Emergency equipment** – equipment such as stretchers, harness, etc. should be available in case of an emergency.
- **Regular inspections** – Inspections conducted daily by designated competent persons can help reinforce excavation safety protection implemented for employees. Inspections conducted before shift starts can proactively catch and address safety issues.

# Hazardous Material Incidents

- Hazardous material incidents, to include chemical spills and leaks, must be reported to **911** and the Board of Director's.
    - Evacuate the immediate area
    - Alert others to the hazardous condition

- If you are instructed to evacuate follow the established procedures as given in the Building Evacuation section. Once at your assembly area await further direction.

- If you are instructed to "shelter-in-place" remain indoors and wait for further direction.